

JAN 19 1979

MICHAEL RODAK, JR., CLERK

IN THE
SUPREME COURT OF THE
UNITED STATES

OCTOBER TERM, 1978

NO. _____

78-1141

STEELCASE, INC.,
Petitioner,

v.

DELWOOD FURNITURE COMPANY, INC.,
Respondent.

APPENDIX

PRICE, HENEVELD, HUIZENGA & COOPER
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INDEX

	Page
APPENDIX	A1
District Court Opinion Of July 2, 1974	A1
District Court Opinion Of February 11, 1975 ..	A37
District Court Opinion Of July 2, 1976	A55
Fifth Circuit Opinion Of August 8, Rehearing Denied October 24, 1978	A68
Translated Belgian Patent 724,771	A75
Testimony of Edward Charles Levit	A84
Cover and Section 901.05 Of The Manual Of Patent Examining Procedure	A85
Journal Of The Patent Office Society, February 1972, Vol 54, pp 110-113	A90
Testimony Of Daniel Grisar	A95
Testimony Of George E. Pickering	A98
Testimony Of Vincent M. Foote	A100
United States Patent 2,967,565 to M. R. Schultz	A105
Photograph Of Estaban Chair	A114
Testimony Of Joseph H. Appleton	A115
Belgian Patent Law Case Reported In "L. Ingenieur Conseil" 1919	A117
United States Patent 3,669,499: Patent In Issue	A119

1 MR. MITCHELL: We will leave it with the
2 Clerk.

3 THE COURT: Yes.

4
5 (WHEREUPON, proceedings were adjourned at
6 4:30 P. M., July 1, 1974, until 2:00 P. M., July 2,
7 1974, following which the following occurred:)

8
9 JULY 2, 1974 2:00 P. M.

10
11 AFTERNOON SESSION

12
13 THE COURT: The Court will now enter find-
14 ings of fact and conclusions of law in the form of
15 a memorandum of opinion being dictated into the re-
16 cord to the Court Reporter. In the event of an ap-
17 peal, the Court would reserve the right to make minor
18 corrections as to form and grammar, and to a minor
19 degree perhaps add additional items of evidence or
20 references thereto.

21 On June 13, 1972, the plaintiff, Steelcase,
22 as assignee, was issued a utility patent 3,669,499,
23 hereafter to be referred to as 499. This covered
24 essentially a chair that was issued upon an applica-
25 tion that had been filed in December of 1970 by

1 Frans Scamplonius and Stephen Kolk, inventors. On
2 January 9, 1973, the plaintiff as assignee was issued
3 a design patent 225,843, hereafter to be known as
4 843, covering the design of a chair body on an appli-
5 cation which had been filed in April of 1970 by R.
6 P. Buhk. The three inventors indicated were at the
7 time of their application, and at the time of the
8 matters contained in the petitions, employees of the
9 plaintiff. Starting in mid 1970, the plaintiff began
10 manufacture of a chair under the design patent 843
11 and embodying many of the features described in the
12 499 patent. This became a rather immediate commercial
13 success and during its fiscal year 1973, the plain-
14 tiff enjoyed sales in excess of \$20,000,000 of such
15 chairs, being the largest sales item by the plaintiff
16 which is the largest manufacturer of office equipment
17 in this country. In this suit, the plaintiff asserts
18 that the Popini chair is manufactured and sold by the
19 defendant which commenced in terms of actual sale in
20 January, 1973, infringing upon the 499 patent and the
21 843 patent. The assertion is that of the eighteen
22 claims in the 499 patent, defendant's manufacture and
23 sale of the Popini chair infringes upon thirteen of
24 those claims. The defendant admits infringement, if
25 valid, of the 843 design patent with respect to its

1 Ingersoll-Rand v. Brunner & Lay, of the Fifth Circuit.
2 The evidence in this case indicates that both Mr.
3 Semplonius and Mr. Kolk participated in the creation
4 of concepts of the 499 patent. They were intimately
5 involved therewith. The initially conceived of the
6 basic features and plan disclosed in that patent.
7 They did receive aid from other employees of the
8 plaintiff in perfecting, developing and testing their
9 ideas. This, however, after disclosure by them of
10 the basic plan and under instructions and supervision
11 in general by them, these contributions by others
12 employed by the plaintiff were part of and did embrace
13 the basic plan and concepts conceived by Mr. Semploni-
14 us and Mr. Kolk. They did receive a go-ahead for a
15 prototype and for production from their supervisors,
16 but this certainly does not render those supervisors
17 co-inventors. No other persons have been shown by the
18 evidence to have so aided Mr. Semplonius and Mr.
19 Kolk to such a degree as to constitute any other such
20 persons as co-inventors under the test announced by
21 the Supreme Court in Agawan Woolen v. Jordan, 1869.
22 I also cite as reference to this conclusion Hobbs v.
23 United States, out of the Fifth Circuit.

24 The intimation that the fellow employee,
25 Bartholomew, might have been responsible for the idea

1 of a double shell is but that, an intimation, and
2 there is no evidence to give substance to such an
3 intimation, and in fact that is contrary to the clear
4 evidence before the Court. There is no doubt and is
5 no real dispute raised by the defendant, as I under-
6 stand it, but that Mr. Buhk was responsible solely
7 for the development of whatever would be patentable
8 in the 843 patent. I conclude that even if the plain-
9 tiffs had the burden of proof as to who is the inven-
10 tor, they have done so with respect to each patent in
11 demonstrating the persons named therein were the
12 inventors or co-inventors.

13 I turn now to the design patent 843, which
14 having been duly issued is presumed to be valid. The
15 defendant asserts that the ornamental design was an-
16 ticipated by or was obvious, considering the scope
17 and content of prior art, the small differences be-
18 tween the prior art and the claims at issue in that
19 patent, to one having that skill in that art to which
20 the subject matter as a whole pertains. The princi-
21 pal basis for the defendant's contention lies in the
22 Pollock armchair shown in design patented 204,257
23 issued in April of 1966, at least in conjunction with
24 arms taken from an IV chair demonstrated to the Court.
25 The Pollock patent discloses a design for a chair,

1 the exterior of whose seat and back portions is formed
2 by a single panel or shell which gracefully flows in
3 a curvilinear fashion without angles or corners from
4 the top of the back around sweepingly to the front of
5 the seat portion. It partially encloses or envelopes
6 or wraps around one who would sit in the chair. The
7 cushioning is shown for the entire interior from the
8 top of the back to the front of the seat; tubing ex-
9 tends around the periphery of the junction between
10 the cushioning and the exterior shell and loop-like
11 tubular arms are attached to either side of the shell.
12 The 843 patent discloses design of a chair which is
13 remarkably close to that of the Pollock chair. There
14 are some differences. Differences appear to be
15 these. The seat portion of the 843 shell is slightly
16 deeper. The back portion of the 843 shell is slight-
17 ly higher. The back portion of the 843 more nearly
18 approaches a generally 90 degree angle as respects
19 the general line of the seat portion of the shell
20 than does the Pollock design. The back portion of
21 the 843 shell has a curvature which flows generally
22 in the same direction throughout, that is, the slope
23 of the curvature does not undergo a change of direc-
24 tion during the sloping, whereas in the Pollock de-
25 sign there is or appears to be some change in the

1 direction of slope as it flares to the outside, to
2 the top at the back. In the 843 design the trim ele-
3 ment which takes the place of the tubing is less
4 pronounced than in the Pollock version though it
5 again extends around the peripheral junction between
6 the cushioning and the exterior shell. The arms ap-
7 pear in the 843 as generally L-shaped members extend-
8 ing from between the exterior shell and the cushion-
9 ing of the seat and the seat and back portion rather
10 than as closed loops. Already in the state of the
11 art apparently not brought to the attention of or
12 discovered by the patent office were L-shaped arms
13 which had been used on IV chairs which in one form
14 of speaking might be classified as a shell chair. I
15 will have more to say about that later on. There
16 would, however, be a significant difference in that
17 the IV arms are attached to the body of the chair,
18 that is, to the back portion and the seat portion in
19 a way that would be visible to the observer being
20 attached to the outside of the chair, whereas in the
21 Pollock design as indicated, the attachment is hidden
22 so that the arm appears to disappear between the
23 cushioning and the exterior shell. The general over-
24 all appearance of the Pollock and the 843 design chair
25 are remarkably similar. Likewise, the appearance of

1 the 843 arms and the IV arms bear a striking simi-
2 larity. In the office chair, as plaintiff's own
3 witnesses have demonstrated, the tendency during the
4 late sixties which would be the time of this inven-
5 tion has been to concentrate on minor modifications
6 of existing design and construction on imitation as
7 perhaps distinguished from innovation. In this par-
8 ticular respect, I find that evidence not helpful
9 to the plaintiff in the design aspect because it
10 tends to support the belief that what newness might
11 be involved in the combination is the type of matter
12 which would be concentrated upon and with which the
13 designers in the art were familiar. The combination
14 of the Pollock body and the IV arms coupled with
15 a concealment concept for the arm member similar to
16 that already used in many of the chairs such as the
17 Cosco chair can of course be a patentable concept,
18 and I do not mean to suggest that a combination is
19 not patentable. Here I find and conclude, however,
20 that given the scope and content of the art, the
21 very slight differences between that shown in the
22 patent and that in the prior art and the particular
23 level and tendency of the skill in this art, taking
24 the subject matter of 843 as a whole, it was an ob-
25 vious alteration, modification or combination. I

1 say this in an attempt not to be governed by hind-
2 sight which is a very dangerous problem, I think,
3 for courts in working on this type of litigation.
4 I find that it was the extension of previously exist-
5 ing principles which would have been clear to one
6 possessing ordinary skill in the relevant prior art
7 of that period. The holding of invalidity of the
8 design patent due to non-obviousness does not of
9 course deprecate the work product of Buhk, who simply
10 did something better in a sense although it was
11 obvious. It is a pleasing design, a very pleasing
12 design, and one that has met with marked commercial
13 success and indeed prompted copying by the defendant.
14 I note, however, that the weight of the evidence
15 dealing with the copying by the defendant as circum-
16 stantial evidence perhaps to support the idea that
17 this was a novel or not obvious is diminished in my
18 opinion by the fact that the commercial success of
19 the 843 as distinguished from the Pollock chair is
20 shown under the evidence to be significantly affected
21 by the cost differences in marketing. The defendant
22 has met the burden of proving that the 843 design
23 patent did not satisfy the criteria for patentability
24 under the statute and the Court must note the value
25 to the trial court of being able to observe personally

1 the physical specimens of various chairs that were
2 involved as well as photographs. It was some signi-
3 ficance in this respect that the plaintiff's engineer-
4 ing project order in January of 1968 made reference
5 to a chair that would be competitive with the Pollock
6 chair as was then being manufactured by Knoll Asso-
7 ciates, and Mr. Buhk, while testifying he did not
8 study the Pollock chair in detail, acknowledged that
9 he was familiar with it at the time of working on his
10 design.

11 I move now to the utility patent 499 which
12 presents a far more difficult question for the Court.
13 The major questions which are important both in inter-
14 preting the claims and in looking in prior art in-
15 volve a series of questions such as what is a shell
16 in this industry, or what is a shell chair, and to
17 what extent are shell chairs to be treated as diffe-
18 rent from other types of chairs such as to effect
19 the impact of concepts in other chairs as being ob-
20 vious or non-obvious insofar as use upon shell chairs
21 is concerned. A brief history is of some help.

22 Approximately thirty years ago the first chairs of
23 the type now known as shell chairs were introduced
24 to the market arising essentially out of design com-
25 petitions. These were chairs designed by Eames and

1 Sarrinen. The period of time from these chairs for-
2 ward suggests that the basic concepts of a shell chair
3 or related to a single piece of material shaped and
4 contoured in a manner to somewhat resemble a clam
5 shell, providing both seat and back functions for a
6 chair and allowing for some padding or upholstery to
7 be attached to the seat portion or following the
8 contours. Shells generally have been mounted on legs
9 or pedestals. They were initially formed from ply-
10 wood moldings, some sequentially from fiberglass-
11 reinforced polyester and over the course of time since
12 then have utilized other plastic materials including
13 urethane, polypropylene and impact polystyrene and
14 others. Sometimes the shell has been shaped to pro-
15 vide side portions that act or function as arm rests,
16 other times not.

17 In 1965 the Pollock chair as a market item
18 was introduced by Knoll Associates, and it suggested
19 that it was possible to have shell chairs which dis-
20 played a sleek, clean look and which looked both in-
21 viting and comfortable to sit in. There has been
22 some difference in the evidence as to how comfortable
23 the Pollock chair actually was, but it certainly gave
24 that appearance.

25 The 499 patent should, I think, now be

1 analyzed from the standpoint of this memorandum of
2 opinion.

3 Claim 1 describes a chair having a load-
4 bearing structural shell with a means for covering
5 its front face. Thus far this is a description of
6 shell chairs already existing in the art. I might
7 also note as indicating in Harrington Manufacturing
8 v. White, it is permissible to use the terminology
9 "means", in a claim though not to describe the heart
10 of the matter that is thought to be a novel rather
11 it is done so under the doctrine that where the novel-
12 ty of a combination is disclosed with definable,
13 other elements need not be described in structural
14 detail. Claim 1 goes on to describe that this chair
15 was a molded plastic non-load-bearing second shell,
16 it being a trim shell having a decorative exterior
17 appearance and sufficient rigidity to hold a desired
18 design configuration; this trim shell being secured
19 to the inner or structural shell positioned so as
20 to conceal the rear of the structural shell. It is
21 this additional element, that is the gist of the
22 primary concept thought to be patentable by the plain-
23 tiff under claim 1 and other claims.

24 In this suit there are eight other claims
25 involved which depend upon this claim 1.

1 Claim 2 provides that the structural shell
2 of the chair of claim 1 is attached to a seat support-
3 ing pan or base by having an inwardly projecting re-
4 cess in the seat portion of the trim shell. In this
5 connection the drawings and specifications reveal
6 that this can bring the two shells at the support
7 junction for the seat nearly into conformity with
8 one another.

9 Claim 4 says that this chair can be provided
10 with arms, each arm being a continuous member connec-
11 ted at the back and seat of the chair in a concealed
12 manner by notching the structural shell and by wrap-
13 ping the arm members around to the rear of the struc-
14 tural shell and attaching it thereto.

15 Claim 14 is a sub dependent claim and says
16 that these arms of claim 4 can be made of two parts,
17 a metal support rod, the ends of which wrap around
18 and are connected to the structural shell and balance
19 defining the general alignment or configuration of
20 the arm, and a second member, a decorative trim mem-
21 ber channeled to cover and receive the structural
22 rod, that is, covering it except for the ends which
23 are wrapping around the structural shell.

24 Claim 15 basically restates 14, though omit-
25 ting the explicit limitation that the connection of

1 arms be concealed through use of notches or channels
2 in the structural shell.

3 Claim 5 gives greater definition to the
4 means for covering the structural shell referred to
5 in claim 1 stating that the cushioning is secured to
6 the face of the structural shell and that the uphol-
7 stery is then pulled around the periphery of the
8 structural shell and secured to the rear thereof,
9 hidden from view by the trim shell.

10 Claim 6, a sub dependent claim, describes
11 that between the cushioning and upholstery is provid-
12 ed a continuous layer of soft padding. It likewise
13 pulls around and attaches to the rear of the struc-
14 tural shell in a manner similar to that of the up-
15 holstery.

16 Claim 10 makes reference to a bumper strip
17 which extends around the peripheral edge of the trim
18 shell to provide edge protection and to fill slight
19 gaps between the shells.

20 Claim 13 makes reference to the securing
21 of the trim shell in a rigid manner to the back and
22 seat of the structural shell, and thereby increase
23 the rigidity thereof. It is not clear from the claim
24 itself what "thereof" has reference to, but from the
25 specifications read in conjunction therewith it appears

1 that it has reference to increasing the rigidity of
2 the structural shell rather than the trim shell.

3 Claim 11, although worded as an independent
4 claim, is basically a restatement of claim 1, adding
5 the limitation that the structural shell be a molded
6 high impact polystyrene, and that the molded plastic
7 trim shell be made of polypropylene.

8 Claim 16, the third independent claim, is
9 essentially a restatement of claim 4 which related
10 to the concealment of the connection of arms by
11 wrapping same between the inner and outer shells.
12 It differs, however, from claim 4 in that in claim
13 16 there is no specification that the inner shell be
14 the load-bearing member or that the outer shell be
15 only a decorative member with sufficient rigidity to
16 hold a desired design configuration.

17 Claim 17, dependent on 16, describes the
18 construction of the arm as formed from a rod and
19 trim members in the same manner as had claim 14,
20 differing only in describing the two shells as inner
21 and outer rather than a structural and trim.

22 Claim 18, a sub dependent claim, asserts that
23 the inner shell is structural load-bearing; that the
24 outer shell is molded plastic non-load-bearing, having
25 decorative exterior appearance and sufficient rigidity

1 to hold desired design configuration. Claim 18 is
2 essentially the same as claim 14.

3 Now not involved in this case, that is, no
4 assertion of infringement are claims 3, 8 and 12
5 which involve use of ribs on the structural shell for
6 increased rigidity or reinforcement, and claims 7 and
7 9 which involve means for tufting the upholstery
8 through holes in the structural shell and for use of
9 cushioning materials in the back of different densi-
10 ties, respectively.

11 Of the thirteen claims that are involved,
12 a real dispute as to infringement, that is, assuming
13 the validity, is involved in only one respect. The
14 arms of the defendant Popini chairs, while have ex-
15 ternal appearance identical to those shown in the
16 patents and in plaintiff's own chair, excepting only
17 that the Popini trim pieces have a shinier appearance
18 than the plaintiff's, have a somewhat different con-
19 struction. The Popini arms are constructed from
20 three pieces, two metal support rods and phenolic
21 trim member. One rod piece connects to the back por-
22 tion of the structural shell, the other to the seat
23 portion. The trim piece fits over these two rods
24 with channels to receive the same up to the point
25 of their end. The ends of the two rod pieces do

1 cuit last year. The plaintiff has the burden of
2 establishing this substantial identity. I find
3 and conclude that the plaintiff has met its burden,
4 that the differences in the defendant's arms from
5 that indicated in claims 14, 15 and 17, as well as,
6 of course, in 4 and 16 are not sufficient to prevent
7 their being infringing devices assuming the validity
8 of those claims. The support rods of the Popini do
9 define generally the configuration of the arms,
10 though it is possible for there to be some other
11 chair having two rods in which those rods would not
12 so define the general shape. The support rods of
13 the Popini chair do support the trim members and pro-
14 vide the initial structural strength for the arm mem-
15 ber. The use of the rod ends, no less than a con-
16 tinuous rod, permits use of a decorative trim member
17 for external appearance while concealing the connec-
18 tion to the rear of the structural shell, and this
19 after all is the gist of the claims involved in con-
20 nection with the arm.

21 While the defendant's trim members must bear
22 more load than is indicated in the patent, for its
23 trim member, the rods perform more function than
24 merely a connecting bracket. In short, the three
25 pieces of the defendant's arm perform substantially

1 the same means, substantially the same operation and
2 give substantially the same result as the descrip-
3 tion contained in the plaintiff's patent. In this
4 respect, I might note that if the defendant's arms,
5 the three piece arms, had been the subject of a
6 patent in like manner, it would have to be held that
7 the incorporation by the plaintiff of a single rod
8 than two disjointed rods would not in my judgment
9 have prevented that from being an infringing device
10 under the doctrine of equivalence. That which is
11 sauce for the gander is sauce for the other side, or
12 at least the corollary is there.

13 The real background in this lawsuit is which,
14 if any, of the thirteen claims are valid; that is,
15 which, if any, have been anticipated; which, if any,
16 were not new; which, if any, at the time of the inven-
17 tion were obvious, taking the subject matter as a
18 whole, looking at the scope and content of the art
19 and differences and viewing it from the standpoint
20 of one reasonably skilled in that art. The presump-
21 tion of validity under 35 USC 282 is rebuttable;
22 though, as noted in Hobbs v. United States, the Fifth
23 Circuit, 1971, the courts have not distinguished
24 themselves for consistency in determining the quantum
25 of proof necessary to rebut this presumption. The

1 presumption is diluted when issued with a considera-
2 tion of relevant prior art. This doctrine was an-
3 nounced or utilized in American Seating Company v.
4 Southeastern Metals, in the Fifth Circuit in 1969.
5 Now the application of this later principle, however,
6 really raises a question as to what is relevant in
7 the prior art, and it puts the Court right back into
8 the very inquiries anyway that it was directed to make
9 by the Supreme Court in Graham v. John Deere, which
10 namely are to look at the scope and content of the
11 prior art; the differences between the disclosures of
12 the claim and that shown in the prior art and the
13 level of skill possessed in the industry. Obviously
14 at the same time the Court must decide what it is
15 that the patent claims or discloses, recognizing, how-
16 ever, that the claims establish the metes and bounds
17 of the grant, yet it is the inventor's genius and
18 not the scrivener's talents that fundamentally are to
19 be benefitted. Applications need not graphically
20 depict every conceivable element so long as they de-
21 tail the essential factors. The language of the claims
22 is of primary importance, but that is to be considered
23 together with the history of the prosecution and in-
24 terpreted in the light of the disclosed purpose and
25 intent of the inventor. The claim is to be read in

1 the light of the drawings and specifications which,
2 though they represent preferred embodiments, can nar-
3 row although not broaden these claims. This latter
4 distinction, I think, is made clear in United States
5 v. Adams, a Supreme Court decision of 1966. I also
6 make general reference for the overall principles in-
7 volved in the Fifth Circuit decision of last year in
8 Harrington Manufacturing v. White.

9 The principal patentable concept, one that
10 is involved in all of these claims here involved,
11 except 16 and 17, is that of a chair formed of two
12 shells, the inner being a load-bearing structure to
13 which would be attached the legs or base and an ap-
14 propriate covering, the outer being a trim shell for
15 decorative purposes which is non-load-bearing, but
16 does have sufficient rigidity to hold a desired de-
17 sign configuration. I think it is helpful in this
18 respect to read three paragraphs out of the specifi-
19 cations, bearing in mind the need to interpret the
20 claims in the light of the purpose and intent dis-
21 closed. The background is as stated as follows:

22 "The primary objectives of chair design are
23 to achieve both beauty and substantial strength.
24 Unfortunately, these objectives are not necessarily
25 compatible. Accordingly, the more durable chairs

1 tend to have conventional lines necessitated by the
2 emphasis on structural strength. Molded, reinforced
3 plastic chairs are also limited in design potential
4 by the structural necessities of the chair, such as
5 the necessity of conforming to back curvature. Fur-
6 thermore, the exterior appearance of reinforced plas-
7 tics renders it unacceptable for many design purposes."

8 Briefly describing the invention, the appli-
9 cation states, "The present invention provides a
10 chair having a load-bearing structural shell with
11 integral seat and back. Means are provided for
12 covering the face of said shell to give the face a
13 decorative appearance. A molded, plastic trim shell
14 having a decorative exterior appearance and having
15 integral seat and back covering portions is secured
16 to the structural shell in such a manner that the
17 rear of the structural shell is covered by the trim
18 shell in order to give the chair a decorative exter-
19 ior appearance.

20 Thus, the teachings of this invention con-
21 tribute substantially to improve the compatibility
22 of the design and structural objectives of chair
23 engineering. The task of engineering the load-bearing
24 structural shell of this chair can be given to a
25 structural engineer while the task of giving the

1 chair a decorative exterior appearance can be given
2 to a designer. The separate labors of the two men
3 can be brought together into a single chair by uti-
4 lizing applicant's unique means for joining the trim
5 shell to the structural shell."

6 As I look to what was the scope and content
7 of the prior art, it has been made known that the
8 patent office cited as references for the 499, seven
9 prior patents and it has been indicated that the ap-
10 plicants called to the attention of the patent office
11 eight other prior patents. The defendant has cited
12 to the Court as references some seventeen other pa-
13 tents or publications as well as physically bringing
14 in certain objects of chairs for use as part of the
15 prior art as well as materials out of depositions
16 and photographs. Of course, many of the items cited,
17 whether by the patent office, the then applicants,
18 now plaintiffs, by assignment or the defendant relate
19 to features in the dependent claims and not all of
20 these relate to essential elements involved in claim
21 1.

22 In the references before the patent office,
23 several show chairs or seats in which there was a
24 curved sheet or shell which provided or contributed
25 to the formation of both seat and back functions.

1 Some of these involved only a single panel or sheet
2 or shell, namely, the Schjolin, Hurley, Bottemiller
3 and Costin, and in these the sheet or shell had to
4 provide both load-bearing and external appearance if
5 those features were to be provided. Now those before
6 the patent office that might be considered as involv-
7 ing double shells or sheets, we have the Hood and
8 Church patents. Both of these involve two shells or
9 sheets functioning together to provide structural
10 strength, the outer following generally the same lines
11 and slope as the inner, one with a uniform space be-
12 tween the two sheets and the other with no space, but
13 complete conformity and affixation of the two shapes.

14 The Hawley, patent No. 3,139,307, issued
15 June 30, 1964, is the most pertinent of the group
16 before the patent office from the viewpoint of the
17 Court. It does portray a chair with two molded
18 shells which provide or outline a seat and back func-
19 tion. The shape and contour of the outer shell at
20 the back is different from that of the inner, actual-
21 ly showing a space between the two. However, it is
22 not indicated that the outer shell or sheet is freed
23 from structural consideration. It is not indicated
24 that the design and shape of the outer sheet or shell
25 is intended to be dictated by decorative or aesthetic

1 considerations only. The seat structure itself for
2 the Hawley patent appears to be provided through not
3 these sheets or shells but through a separate struc-
4 tural frame. The patent indicates that it leaves
5 for other consideration the development of that parti-
6 cular seating structure.

7 Now the defendant's references include several
8 where decorative panels or covers have been used on
9 chairs, either backs or seats or on benches for
10 decorative appearance or to hide other components,
11 connections or upholstery. Thus the Booth patent,
12 there were separate panels covering seat in back,
13 that is for decorative purposes, those that were
14 separate seats and backs.

15 The Schaefer patent which did not have a
16 full shell under the seat portion and does not in
17 effect provide its own shape, but is shaped by other
18 members of the construction.

19 In the Houser patent, not strictly speaking
20 a shell construction, the double sheeting, or if we
21 use the word loosely shells in the back portion only,
22 and in the figures or drawings with some of the
23 language of the claims and specifications, the two
24 sheets join or function together to contribute to
25 the structure. There is an indication, not clear,

1 but an indication from Houser that perhaps another
2 alternative could be involved which by eliminating
3 the sound absorbing filler between the two panels
4 leaving a space between the outer or back panel might
5 not contribute structurally. It's not made clear,
6 however, in the patents, though it is indicated as
7 a possible alternative, it's not indicated whether
8 in that event the outer panel would or would not pro-
9 vide structural benefit to the back of the bench.

10 There are a number or several references
11 by the defendant to items that do involve two shells
12 in a more traditional way of looking at them.

13 The Angell back rest is not a shell that pro-
14 vides both seat and back. It relates only to shells
15 and a back member. In that particular case, however,
16 both of the shells are or contribute to the structure
17 and are load-bearing in that sense.

18 In the Schultz patent, the outer shell which
19 gives an exterior appearance is nevertheless load-
20 bearing, and the inner shell is used as an aid in
21 upholstering which in turn when sat upon becomes in-
22 volved as a structural member.

23 In the Mason patent, the seat portion does
24 have two shells, although not the back portion of
25 that design of that patent.

1 Now what is a shell as a matter that has run
2 through this trial? Listening to the evidence in the
3 case, and there is a conflict among those that are
4 involved in the same industry, I conclude that a
5 shell means a single one piece item that typically
6 is formed or shaped in a manner such as to avoid sharp
7 angles and corners, and instead generally portray
8 curving lines and sweeps. There can be a shell which
9 is a seat member only, and in the Mason patent there
10 is a description of something or use of the term "seat
11 shell". In that combination I conclude that you can
12 have a shell which only functions for the seat portion
13 of the chair, likewise you could have a back shell
14 which would function only as the back member of a
15 chair. I conclude, however, that if we speak of as
16 this patent does a shell chair with integral seat and
17 back, it means that a single piece of material must
18 be shaped in such a manner as to provide or define
19 seat and back portions of that chair. It's not al-
20 together clear whether in this industry the lines of
21 such a shell can involve angles and corners, or whe-
22 ther they must of necessity be curvilinear and in
23 essence resemble a clam shell. It's not clear from
24 the evidence, and I do not find that I have to make
25 that decision, as to whether you can have sharp line

1 angles and still have a shell. I might say that in
2 deciding that a shell must be of one piece, and that
3 a shall which has integral seat and back portions
4 means a one piece item which has such function. I
5 do not believe that this is in any way inconsistent
6 with the definition of integral as was found by
7 the Court in the American Seating v. Southeastern
8 Metals Company case. It is simply a different prob-
9 lem that the Court is faced with and a different com-
10 bination of words, and I'm not dealing solely with
11 the concept of what does integral mean, but what does
12 shell mean, particularly in conjunction with drawings
13 and the history of the art as indicated in the evi-
14 dence.

15 Now there are some articles that have been
16 shown to the Court by the defendant and upon which
17 the defendant places emphasis. The Estaban chair is
18 a double shell chair, the inner shell around which
19 the upholstery is attached is split vertically into
20 two pieces, though they are later in effect rejoined
21 or at least attached or secured through handles and
22 locking devices. The outer shell of the Estaban
23 chair is in direct conformity and unity with the in-
24 ner shell and is load-bearing. It has no shape in-
25 dependently determined for solely an aesthetic reason.

1 Now the defendant asserts the patent does
2 not specify that the outer shell's desired design con-
3 figuration must be different from the shape of the
4 structural shell, and it does not explicitly so
5 state. However, references to the background and
6 specifications, and I have read a quotation of three
7 paragraphs out of that, makes such an indication.
8 Also the patent indicates or discloses a need for space
9 between the shells to accommodate the upholstery and
10 the arms. The patent in part indicates a design for
11 or a construction of a recess in the trim shell at
12 the base pran or iron, such recess not being necessary
13 unless there was some space between the shell. The
14 design or the patent indicates as a type of direction
15 or limitation that the trim shell have a decorative
16 appearance and that it be of sufficient rigidity to
17 hold a desired design configuration. I think the
18 various considerations, both the wording of the claims,
19 the object and intent of the inventor as disclosed in
20 other parts of the patent application, the references
21 that I have indicated to other claims make it implicit
22 that the shape for the exterior appearance is expected
23 to be different from the structural shape and is ex-
24 pected to not to have to conform to the shape of the
25 structural shell and that indeed the contribution

1 being offered, the advancement in the art is that
2 thereby the aesthetic designer may be freed from the
3 limitations that are placed upon structural design.
4 This does not mean that it would never be possible
5 for there to be some point of unity between the two
6 design purposes. It does indicate that is not to be
7 anticipated or to be ordinary. In any event, the
8 determinate for this purpose would be whether the
9 outer shell is non-load-bearing. It might be possible
10 to have an outer shell that was non-load-bearing, and
11 that was in identical conformity with the inner struc-
12 tural shell, and that then might involve some questions
13 as to whether that would be infringement or not by
14 such a device. But I am not faced with that problem
15 here.

16 The Hobo Joe chair shown and demonstrated
17 to the Court has a non-load-bearing shaped decorative
18 shell or panel member that embodies or gives both
19 seat and back portions in a single sheet or formed
20 member, although it does have angles and corners that
21 distinguish it from the more traditional shell con-
22 cept; in any event, however, the support structure
23 for the Hobo Joe chair is not a shell, that is not a
24 shell chair, it rather consists of a separate seat,
25 a separate back with the two being joined through

1 of research, design, work in the industry was limited,
2 and this evidence does support the conclusion of non-
3 obviousness as to this innovation, although as pre-
4 viously indicated it tends to run against the plain-
5 tiff insofar as the questions about the design patent
6 was concerned.

7 Now it is unnecessary to deal with the claims
8 that are dependent upon claim 1. If I had to find
9 something was added by claim 2, the support claim;
10 claims 5 and 6, the cushioning claims; claim 10, the
11 bumper strip; claim 13, the additional rigidity, it's
12 doubtful, in view of the existing use of such elements
13 within other chairs, and the tendency towards copying
14 as imitation as distinguished from innovation, that
15 I would have found that there was the combination as
16 described in those dependent claims would have served
17 or given life or vitality to claim 1. I simply do not
18 need -- it's unnecessary to the decision, but I do
19 not find that they would have so added if it were ne-
20 cessary.

21 Insofar as claim 11 is concerned, the speci-
22 fications of impact polystyrene and polypropylene as
23 materials for the shells would not in my judgment add
24 to the patentable concept. Claim 11 is supportable
25 and is valid for the reason claim 1 was. But the

1 photographs of publications showing trim members or
2 arms with recesses and the only difference essentially
3 being that the one shown to the Court did not cover
4 the entire length of the arm from seat to back, but
5 only a major portion of that.

6 Claim 18 which is duplicative of claim 4 is
7 upheld as valid on the same basis that claim 4 was.

8 The Court will need to set a time for hearing
9 of the defense relating to unenforceability, and will
10 also need to consult with counsel relative to the hand-
11 ling of the relief aspects. I would assume that I
12 should meet with counsel, and I don't know whether you
13 could do it later this afternoon, but at least make
14 some plans for both additional discovery or timing or
15 whether there are complications about that. I am
16 available.

17 MR. HENEVELD: This afternoon would be very
18 fine for us, Your Honor.

19 MR. CARTER: Well, Your Honor, that would
20 be fine for us, for me too. May I -- is this all on
21 the record?

22 THE COURT: Surely.

23 MR. CARTER: May I ask the Court for the
24 purposes -- I should say my understanding to spell
25 out specifically the claims it has held valid and

1 those which it has held invalid.

2 THE COURT: Yes. I will do so now.

3 MR. CARTER: All right.

4 THE COURT: I hold invalid claims 16 and 17.

5 I hold valid all other claims to the extent they
6 were involved in this litigation which excludes 5
7 claims already mentioned in which infringement was
8 not charged. It is my belief that the additions of
9 a specification of material, for example, in claim 11
10 does not render that claim invalid if the other parts
11 of that claim are patentable, and claim 11 deals with,
12 as I view it, essentially with claim 1 and simply
13 adds as an additional specification the materials that
14 are used.

15 MR. CARTER: That was the point of my ques-
16 tion, Your Honor, because if the case is appealed,
17 I think it would be very necessary that the Court of
18 Appeals be advised as to a specific ruling of validity
19 or invalidity as to each claim.

20 THE COURT: I do rule 11 valid based on the
21 patentable concept indicated therein of the two sepa-
22 rate shells, one load-bearing, the other decorative
23 and a trim shell and non-load-bearing. That element
24 was contained in 11, and although I do not think the
25 additional specifications or limitations as to material:

1 adds anything, neither do I believe that would in-
2 validate the claim. I might likewise say that the
3 use of the word molded in several of the claims I
4 take it to be a descriptive word relating to that
5 which can be shaped in a curving way, and not as a
6 word that defines a particular process of manufacture.
7 I do view the word molded in that sense.

8 I would like to meet with counsel, and I
9 am sure you will want to take a few minutes, and
10 you may need to discuss this with your clients.

11 MR. CARTER: Your Honor, about the exhibits.
12 Is the Court going to release the exhibits this after-
13 noon?

14 THE COURT: It is fine with me to release
15 the exhibits. I await your pleasure on that.

16 MR. HENEVELD: Well, we had decided contin-
17 gent upon your approval, we would pack them up and
18 hold all the exhibits that we have for purposes of
19 appeal, if that becomes necessary, and that would
20 take all of the physical exhibits out of the court.

21 THE COURT: That is other than the photo-
22 graphs and the like.

23 MR. HENEVELD: That's right.

24 Now, Your Honor, we do have photographs of
25 all of the exhibits that we have submitted, and they

1 are given the same number, and we will leave those
2 with the Court.

3 THE COURT: Well, I have no objections. I
4 think it is a question whether Mr. Carter would like
5 at least temporarily --

6 MR. CARTER: Of course, I haven't seen them,
7 Judge, and I don't know what they are. Looks to me
8 like if this case is appealed, going to have to haul
9 all this stuff down to New Orleans or Atlanta, where-
10 ever it is heard.

11 THE COURT: I would say upon taking exhibits
12 out, there must be a commitment to provide those
13 chairs on request, and if so requested and allowed
14 to make them available at the place where the appellate
15 court might be sitting.

16 MR. HENEVELD: We will work that out, Your
17 Honor.

18 THE COURT: But otherwise I don't think any-
19 body would have any objections to removing of the
20 physical exhibits. I think the Clerk would be de-
21 lighted.

22 Let's meet, gentlemen, in about ten minutes.

23
24 (WHEREUPON, proceedings were adjourned at
25 3:20 P. M., July 2, 1974.)

1 FINDINGS OF FACT AND CONCLUSIONS OF LAW

2
3 THE COURT: The Court will now dictate into
4 the record in the form of a memorandum of opinion the
5 conclusions of law and findings of fact pertinent
6 to this phase of the case.

7 These findings and conclusions are based
8 upon the evidence presented in the Court over the
9 last two days, primarily consisting of depositions,
10 testimony and exhibits.

11 The legal issues are essentially as framed
12 through the Court's rulings on certain matters of
13 defense and requests to amend the defenses.

14 The Court would reserve the right to make
15 minor corrections of form to this dictated memorandum
16 of opinion, but no change of substance will be made
17 without notice to the parties.

18 Since at least the mid 1940's, with the
19 case of Morton Salt v. Suppinger, there has existed
20 the court-made rule that patent misuse disables
21 a patentee from enforcing a patent until that misuse
22 has ceased and until the effects of such a misuse
23 have dissipated. This is true irrespective of any
24 damage actually suffered due to the misuse by the
25 alleged infringer. The Court, therefore, in a case

1 alleging misuse finds itself in the position of
2 assimilating principles, both of patent law and of
3 antitrust law. Certainly the Hartford Empire case
4 has made it clear that, as a general rule, an anti-
5 trust violation would constitute a misuse of a patent
6 where they are interrelated. The antitrust law
7 has, along with other areas in the law, gone through
8 stages of development and change. Most particular
9 for our purposes would be the Arnold Schwinn case in
10 which the Supreme Court held that restrictions on re-
11 sale to third persons would constitute, under the type
12 of situation there involved, a per se violation of the
13 antitrust laws. While the Schwinn case has come
14 under attack by many critics and scholars, it remains
15 the law; and as recently as January 17th of 1975,
16 was so recognized by the Fifth Circuit in the case
17 of Cooper Liquor, Inc. v. Adolph Coors Company.

18 There are three defenses or elements
19 alternatively and cumulatively that are advanced
20 by the defendant in the present case as assertions
21 of misuse by the plaintiff of its patent rights
22 under the 499 patent. I think it is well to concentrate
23 essentially on each of these three defenses, separately,
24 and to look at the facts as they have been developed
25 from the evidence relating thereto.

1 In March of 1973, the plaintiff granted a
2 license to Metalstand Company, Inc., and Blair
3 Manufacturing Company, under which those companies
4 were permitted to manufacture, use and sell what was
5 there defined to be licensed devices. Essentially
6 the licensed devices defined in that license were
7 chairs of a double shell construction comparable to
8 those then being manufactured and sold by the plain-
9 tiff, but with some modifications, principally in
10 the arms. The license agreement contained a
11 restriction, and it is this restriction and certain
12 accompanying provisions in the balance of the
13 agreement that are related to it that are the basis
14 for the first defense here posed by the defendant.

15 The restriction in question in 2.01 provides
16 that no licensed devices may be knowingly sold to
17 or through prime manufacturers within the territory
18 now served by Steelcase's California manufacturing
19 facility, such territory including specifically
20 and only the states of Washington, Oregon, California,
21 Arizona and Nevada. By amendment on virtually the
22 same day, that language was clarified to make clear
23 that a sale between Metalstand Company, Inc. and
24 Blair Manufacturing Company, Inc. would not constitute
25 a transaction calling for a royalty payment under

1 this license agreement, and that the royalty payment
2 provided in the agreement would become payable only
3 when the licensed device was sold to some outside
4 agency by one or the other of the two companies.

5 There is no doubt but that customer resale
6 restriction and territorial resale restriction may
7 constitute an antitrust violation, and in turn may
8 constitute a misuse for patent. The Arnold Schwinn
9 case and the American Industrial Fastener Corporation
10 case speak to that point. The principal question here
11 raised is whether in light of the relationship be-
12 tween Blair Manufacturing Company and Metalstand
13 Company, Inc., this is such a situation of a violation
14 of antitrust laws and abuse or misuse of the patent.

15 The relevant facts as to the relationship
16 between the two companies are not really in dispute.
17 Blair is the parent of Metalstand, owning all of the
18 stock of the latter Company. While the evidence
19 is not absolutely clear on this point, the Court
20 does find that as a matter of fact that the
21 directors, three in number, are the same for both
22 Blair and Metalstand. The president of each company
23 is the same. The financial and accounting records
24 essentially are maintained on behalf of both of
25 them as a single operating entity. Blair is in essence

1 the manufacturing arm of Metalstand. Blair
2 manufactures seating and other furniture elements
3 only for Metalstand, selling to no one else. All
4 sales to any outside agencies are made by Metalstand.
5 It is not rare for an order to be made through
6 Metalstand with a drop shipment directly from Blair.
7 Customers are not generally familiar with the exist-
8 ence of Blair, treating the enterprise simply as
9 Metalstand. Only those apparently quite familiar
10 with the intricacies of the operation are aware that
11 Blair has a separate corporate structure. Frequently
12 the name of Blair appears merely as a division of
13 Metalstand, even though in fact Blair is the parent
14 and Metalstand is the subsidiary and neither is a
15 division of the other. They file a consolidated
16 income tax return. They share some employees in
17 common, although each has its own employees as well.
18 They function as a single operating unit.

19 The question then is whether they should
20 be treated as two separate entities in the context
21 of defense No. 1. That is, since Blair sells these
22 licensed devices to Metalstand on order from Metal-
23 stand, and since Metalstand sells to outside
24 customers, does the license agreement constitute a
25 misuse of the patent by restricting Metalstand from

1 selling to prime manufacturers on the west coast?
2 It should be noted that the price charged Metalstand
3 is the same as that which Metalstand charges its
4 customers, except for shipping charges.

5 Much reliance in this case is placed upon
6 the case of Mensley Equipment v. Esco Corporation, a
7 1967 decision of the Fifth Circuit. In that case,
8 it was held that there was a misuse of a patent
9 wherein the licensee of the patent purchased
10 patented articles both from the patentholder and
11 from other licensees of the patentholder while the
12 license placed a restriction on the resale of such
13 items to its, the licensee's, customers. It was
14 noted in that case, at least by implication, that
15 if the licensee had manufactured the products, such
16 a restriction could have been or would have been
17 permissible; that is, assuming that was the sole
18 source of articles obtained for resale under the
19 license.

20 In the antitrust field, there have been
21 cases that have concluded that a single enterprise
22 consisting of several corporate entities would be
23 treated as separate beings, such as to permit a con-
24 clusion of a conspiracy between two or more persons.
25 The Perma Life Mufflers case, of course, stands out

1 in that respect.

2 There is no case directly on point that
3 this Court has found as to whether in a situation
4 of close union and relationship such as we have
5 between Metalstand and Blair, the intra-enterprise
6 transactions, transferring title from Blair to
7 Metalstand, should for purposes of the patent or
8 antitrust law be considered as a first sale, thereby
9 making inappropriate and wrongful a restriction
10 on resale.

11 The Court must, in determining an answer
12 to this question, look ultimately to the purposes and
13 functions of the patent law, to the Court's interpreta-
14 tion of that law, and to the like principles that
15 are applicable in the antitrust field. Given the
16 totality of the situation and without attempting to
17 point to facts that would be so critical as to call
18 for a decision different under some other set of
19 circumstances, I conclude that the first defense posed
20 by the defendants is not well taken, that in the
21 context of this particular case the relationship
22 between Blair and Metalstand was such that they should
23 be treated in essence as a single licensee, that the
24 paper transactions between the two of them did not
25 give rise to the type of sale which was condemned in

1 cases such as Schwinn or Hensley Equipment.

2 The defendants have introduced evidence, if
3 this is of any importance, as to the impact of this
4 restriction. The restriction was itself eliminated
5 by agreement in June 1974, but the defendant would
6 indicate that it did have its significance while it
7 existed. In particular the defendant would point
8 to a relationship in a course of dealing between
9 Metalstand on the one hand and Harpers of California
10 or more particularly W. H. Harper Company on the other.

11 The facts indicate that from 1954 to 1958,
12 Harpers, which had been formed by two prior employees
13 of Metalstand, had a contract whereby it purchased
14 various items of equipment from Metalstand for sale
15 and distribution in the west coast area. Even after
16 the expiration of that agreement there continued to
17 be significant transactions between Metalstand and
18 Blair. Metalstand sells almost exclusively in the
19 area east of the Rockies, and its scattered dealers
20 beyond the west coast are apparently insignificant.
21 The converse is true with respect to Harpers. It
22 sells in the west coast area and has an insignificant
23 commerce into the areas east of the Rockies.

24 In 1972, Harpers acquired 600 sets of shells,
25 inner and outer shells, such as utilized in plaintiff's

1 royalties by Metalstand to Steelcase following the
2 license agreement of March 1973, there was paid a
3 fifty cent per item royalty on the 600 sets of shells.
4 The license agreement between Steelcase and Metalstand
5 does not license Metalstand to sell shells as parts
6 to be incorporated in double shell chairs. It simply
7 does not speak to that point insofar as grant of a
8 license is concerned.

9 Although not directly raised, the Court
10 should nevertheless consider what are the implications
11 of a payment having been received under royalty arrange-
12 ment with respect to such items which were not covered
13 by the license, the royalty provided therein. There
14 are cases which have held or indicated that a license
15 whose royalty is based upon periods of time beyond
16 the life of the patent or upon the purchase of other
17 non-patented items from the patentholder or impermis-
18 sibly based on other items not germane to the patent,
19 may be a misuse of the patent.

20 In this case I do not find that there was
21 any misuse of any disabling nature that arises out
22 of the receipt of a fifty cent per item royalty on
23 the 600 sets of shells. To begin with, the items are
24 not totally unrelated to the subject matter of the
25 patent. Indeed, it may be, though the Court need not

1 determine this, that the sale by Metalstand to
2 Harpers of the shells which were later incorporated
3 by Harpers into a chair, might have constituted con-
4 tributory infringement of the patent for which some
5 royalty could be extracted by Steelcase. In any
6 event, it was a one-time proposition and not of a
7 continuing nature; and perhaps critical to any assert-
8 ion that that receipt constituted misuse of the patent,
9 is the fact that insofar as this evidence discloses
10 the plaintiff was not aware until this trial that there
11 had been paid a royalty based on those 600 items.

12 The second defense raised by the defendant
13 is that there has been a misuse of the patent by
14 placing conditions upon the licensees on the manner
15 in which they may use the patent. More particularly,
16 there have been restrictions as to the type of arm
17 that would be used or the nature of the interior
18 shell. In this context, it should be noted, however,
19 that this defense to the extent allowed by the Court
20 is not dependent upon whether the plaintiff did or
21 did not have a patent for those same very items.
22 And at the time of permitting the defense at a late
23 date, it was permitted on the basis that this defense
24 of alleged misuse is essentially a challenge to the
25 placing of any condition upon a grant of a license

1 under a particular patent, whether or not the
2 holder of the patent, grantor of the license, does
3 or does not have some other parent involving these
4 items.

5 The defendant has been candid to this
6 Court in acknowledging that the Seventh Circuit in
7 Bella Seating Company, Inc. v. Poloron Products, Inc.,
8 has to the extent that case is due to be followed
9 ruled contrary to this defense. I conclude that
10 the Bella Seating Company case is good law and it is
11 due to be followed. The mention is made that to
12 some degree Bella Seating relied upon the case of
13 Vulcan Manufacturing Company v. Maytag, a 1934 case,
14 and that at a subsequent point in time the Eighth
15 Circuit which decided that case determined that it
16 would question whether that was still good law in view
17 of subsequent developments in the law since its
18 decision. I do find other decisions, however, sub-
19 sequent to Vulcan indicating that the same rule or
20 rationale is still good law even after the intervening
21 case law.

22 It is perhaps worthy of note that General
23 Talking Pictures Corporation v. Western Electric is
24 still on the books and has certainly not been
25 explicitly rejected by subsequent Supreme Court decision.

1 And in essence the teaching, if we can use the
2 language of patent attorneys, is that a patentee may
3 restrict the style or design or uses of devices
4 manufactured by licensee, or at least that such
5 restrictions are not per se impermissible.

6 The third defense raised by the defendant
7 is that there have been charged discriminatory
8 royalties such as to constitute a misuse of the patent.
9 The factual basis for this assertion is that the
10 license with Metalstand of March 15, 1973, provides
11 for a unit royalty of fifty cents per item, while the
12 license agreement with All Steel of July 1, 1973,
13 provides for a flat annual royalty of \$15,000.00, and
14 while the license with W. H. Harper Company of
15 January 23, 1974, charges a flat annual royalty of
16 \$4,000.00 per year. It should be noted that the
17 evidence indicates that both All Steel and Harper
18 were offered unit royalty rates, but declined the
19 same, preferring for their own reasons an annual
20 royalty rate.

21 There are decisions, including one from
22 the Fifth Circuit in LaPeyre v. F. T. C. in 1966
23 which have concluded that under particular facts,
24 discriminatory royalties can be a part of a method
25 or a device which violates antitrust principles,

1 and which constitutes a misuse of the patent. I do
2 not find that the evidence in this case brings
3 within the teaching of that Fifth Circuit decision.

4 Other courts, of course, as in the Bella
5 Seating case and many others, have permitted different
6 royalty rates without that matter in and of itself
7 constituting any form of misuse. There is no
8 evidence in this case, as distinguished from the
9 LaPeyre decision and the two district court opinions
10 that were related to it, the Peelers Company case
11 and the Laitram case, to show any adverse competitive
12 affect upon their price differential. Not only is
13 there no evidence of substantial adverse competitive
14 affect by this price difference, but there is simply
15 none at all.

16 The third defense raised by the defendant
17 is, like the first and the second, due to be denied.

18 The Court had declined to permit the defend-
19 ant to file or to present two other defenses that
20 were related to a claim that the chair described in
21 the Harpers license involved a segmented inner shell
22 which, given the nature of this Court's prior ruling
23 on the validity issue, would not, according to the
24 defendant, be an infringing article upon the plain-
25 tiff's patent. The Court declined to permit those

1 defenses, one as a direct defense of misuse, and
2 the other being raised as a form of unclean hands
3 of misleading the Court. And the Court did so for
4 a variety of reasons.

5 One reason was the lateness of presentation
6 of the defense. Another was that, taken to its
7 logical conclusion, the type of attack there offered
8 by the defendant would involve this Court, or any
9 other where that defense were raised, to look at
10 each license granted by a patent holding plaintiff
11 and determine whether the article being made there-
12 under did or did not constitute an infringement of
13 the patent. In logical sequence, it would mean
14 that rather than looking to the validity of the
15 plaintiff's patent and the infringing nature of the
16 defendant's article, this Court would have been involved
17 with determining the infringing nature of each other
18 item that was being sold under a license granted by
19 the plaintiff. If the Court could have managed, as
20 it could have, such an inquiry with respect to three
21 licenses, it nevertheless should be noted that the
22 logical extension of this position of the defendants
23 would mean that perhaps hundreds of licenses would
24 have to be looked at in other cases where hundreds
25 of licenses had been granted.

1 More particularly, the Court declined to
2 permit the defense or the defenses on the basis that
3 it would have properly permitted expert testimony
4 whether offered by the plaintiff or by the defendant
5 on the infringing nature of such other licensed
6 product.

7 Now I should say, however, that this is
8 not a case, nor was the defense of such a nature as
9 to charge, that a patentholder was granting a license
10 under his purported patent which was totally beyond
11 the arguable limits of his patent. It is possible
12 that the licensed product under the Harpers exhibit
13 would ultimately be found to be not an infringing
14 article as against the plaintiff's patent; but it is
15 arguably one and arguably covered by that patent.
16 It is true that it provides or allows for construction
17 and sale under the 499 patent of a chair whose
18 inner load-bearing shell, instead of being integral
19 as this Court has defined integral, would be segmented
20 or be of two pieces. Although this Court has found
21 that integral was a key word and a key concept in
22 this patent, certainly at the time of this license
23 agreement the word integral might or might not have
24 been held to be that critical or key to the concept
25 embodied in that patent. As long as the license re-

1 lates to a product that is arguably within the
2 bounds of the patent, the patentholder should not
3 thereafter be challenged as having misused the
4 patent merely because in final analysis after some
5 court decision it turned out that a few of its
6 claims were not upheld or that some words were held
7 to be totally critical to its claim, and that others
8 were not.

9 I find that the license agreement with
10 Harpers was arguably within the claim of the patent
11 and teaching of the patent.

12 What I have just said for the last few
13 minutes is really only dictum, because I did not
14 allow the defense; but I did want to indicate my
15 thinking as to the reasons for denial of the additional
16 answer, and they relate to timeliness, to additional
17 nature of evidence that would be required, as well as
18 to my belief that that type of defense is not one of
19 great substance at least in the facts of this case.

20 The plaintiff is due to have an injunction
21 running in its favor, prohibiting the defendant from
22 infringing its 499 patent.

23 There will be a need to schedule further
24 proceedings in this case after further discovery on
25 the issue of an accounting by the defendant to the

1 plaintiff and for other relief as requested by the
2 plaintiff.

3 I believe that the parties, insofar as
4 the technical form of the injunction, can present to
5 me an appropriate short form written order to that
6 effect. I do not like to impose upon counsel, and I
7 do not think it is a good idea to impose upon counsel,
8 for the writing of judgments or opinions or the like.
9 To the limited degree, however, of making clear
10 in context of patent law language the nature of the
11 injunction against the defendant, I think I can ask
12 counsel to join in drafting that; and it should
13 merely indicate as a preface to that injunction that
14 it is issued for the reasons stated into the record
15 by the Court at the conclusion of the hearing, and
16 without recitation of all the findings and conclusions
17 as contained herein.

18 What I want the parties to do is prepare
19 an appropriate injunction order as I have indicated,
20 and I will take the rest.

21 Thank you.

22 (WHEREUPON, proceedings were adjourned
23 at 2:53 P.M., February 11, 1975.)

24
25 END OF PROCEEDINGS.

1 IN THE UNITED STATES DISTRICT COURT FOR THE NORTHERN
2 DISTRICT OF ALABAMA, SOUTHERN DIVISION

3
4 STEELCASE, INC.,)
5 a corporation,)

6 Plaintiff,)

7 vs.)

CA 75-186-S

8 DELWOOD FURNITURE COMPANY,)
9 INC., a corporation,)

10 Defendant.)

11
12 C A P T I O N

13 THE ABOVE-ENTITLED CAUSE came on to be
14 heard before the Honorable Sam C. Pointer, United
15 States District Judge, at the United States Courthouse,
16 Birmingham, Alabama, commencing on June 30, 1976.

17
18 A P P E A R A N C E S

19 Messrs. Lloyd A. Heneveld and James A.
20 Mitchell, of the firm of Price, Heneveld, Huiyenga
21 & Cooper, 5740 Foremost Drive, S. E., P. O. Box 2767,
22 Grand Rapids, Michigan 49501, appearing on behalf of
23 the Plaintiff.

24 Messrs. Garrett P. Tucker, Jr. and Alan
25 Rosenthal, of the firm of Baker & Botts, One Shell
Plaza, Houston, Texas 77022, appearing on behalf of

the Defendant.

Mr. Hugh P. Carter, of the firm of Jennings,
Carter & Thompson, 1414 Bank for Savings Building,
Birmingham, Alabama, appearing on behalf of the
Defendant.

FINDINGS OF FACT AND CONCLUSIONS OF LAW

THE COURT: The Court then will now enter
findings of fact and conclusions of law based upon
the evidence presented to it. Anticipating that some
appeal will be involved. I do reserve the right to
make minor typographical changes in these findings and
conclusions as being dictated to the Court Reporter.

Before the Court at this time is the con-
sideration of whether Belgian Patent 771 under either
Section 102(b) or 103 of Title 35 should cause the
Court to amend the findings previously made by it,
which had held several of the claims of the Semplonius
'499 Patent to be both valid and infringed by the
Defendant. The Belgian Patent, as agreed by the
parties, did predate the Semplonius '499 Patent. Use
of the Belgian Patent in this case is not asserted due
to any publication however, but is asserted based
upon its in fact having been patented prior to the
Semplonius patent involved in this litigation.

The case is before the Court at this time
due to the Court's having granted the Defendant's
motion to present additional evidence which was
claimed and shown to the Court's satisfaction to have
been recently discovered, that is, subsequent to the

1 original trial of the case. The Belgian Patent
2 claims as the nature of the invention, a process
3 for manufacturing a chair and the chair produced by
4 such a manufacturing process. The Court in these
5 fact findings will utilize the word "chair" instead
6 of the word "seat" where that was used in the trans-
7 lation of the Belgian Patent, as I believe, under
8 the testimony presented to me, the word "chair" would
9 be a better rendition in translation than was the
10 word "seat" selected by the translator. I do make
11 that finding or conclusion not by virtue of any skill
12 or knowledge on my own part as to Belgian language,
13 but by reference to drawings, description and testi-
14 mony of a Belgian expert dealing with this particular
15 patent.

16 According to the Belgian Patent, the inven-
17 tor was claiming, as a novel concept, a process by
18 which a chair could be manufactured using two shells;
19 and we are taught, by looking at the entire patent,
20 that these shells would be of curvilinear molded shape
21 including integral seat and back and perhaps arms as
22 well. According to the claims, holes would be cut
23 in each of these two shells at the approximate place
24 where one would sit. A base element with some
25 resiliency, perhaps involving elastic elements, would

1 process also be protected. This is so whether or not
2 there is an expressed claim that the chair manufactured
3 by the process also be protected.

4 In the Belgian Patent, there is no statement in
5 words as to the strength or flexibility of either or
6 both of the shells. It is suggested by inference that
7 the inner shell would have some rigidity, that infer-
8 ence being drawn by reason of the fact that the hole in
9 the inner shell and the use of resilient materials in
10 the base element is manifestly for the purpose of
11 giving additional comfort or resiliency to the seating
12 portion of the chair. There are drawings in the Belgian
13 Patent which constitute an embodiment, perhaps a pre-
14 ferred embodiment, of a chair manufactured by these
15 processes. In the drawing itself, there is an indica-
16 tion of two things that are not stated in any way in
17 the claims themselves. First, in Figure 2 of the draw-
18 ings, it is indicated that the outer shell is of great-
19 er thickness than the inner shell. Nowhere in the rest
20 of the patent is there any indication as to whether
21 that should be so or if so, why, or if so, whether that
22 is in any way an essential part of the patent. Second-
23 ly, it is not expressly stated in the words of the claims
24 that the shapes of the two shells should be different
25 in any major degree from one another, and that there

1 should be space between the two shells. Such a con-
2 cept is indicated in the drawings, particularly Fig. 2.

3 While those ideas are not expressly stated
4 in the wording of the claims, the Court finds that it
5 would be appropriate even under Belgian law, as has
6 been expressed by the expert witness, to look to the
7 drawings in order to ascertain what amounts to ambi-
8 guities in the language relative to shapes, and finds
9 that the Belgian Patent does at least comprehend that
10 there would be space between the two shells and
11 indeed that there must be space between the two shells
12 at some point if there is to be a base element which
13 intervenes between the two shells at some points but
14 not at others, and still have the peripheries joining.
15 Likewise, for there to be space at one part of the
16 chair, namely at least at the seating portion, while
17 having a joinder of the two shells around the periphery,
18 it follows of necessity that the shells must be of some-
19 what different shape.

20 There is no statement in the Belgian claim that
21 the inventor considered as novel, or was claiming for
22 protection, the concept that the outer of the two
23 shells served only a decorative function. There is
24 no direct expression, as would be determined from
25 reading the patent, that the inner shell was to be

1 designed so that it would be the only structural
2 load-bearing member, that is, vis-a-vis the other
3 shell.

4 In describing the process of manufacture,
5 more particularly the placement of holes in the outer
6 shell, with the outer shell not resting upon the foot,
7 and this indeed occurring even where there was no
8 upholstery material on the outer shell, the process
9 of manufacture has reflected a method which to one
10 skilled in the art would, of necessity, mean that the
11 inner shell was at least one of the load-bearing
12 members. Indeed, one is hard pressed to understand
13 any function or purpose for cutting a hole in the
14 outer shell if it does not have upholstery, if the
15 outer shell is to be load bearing.

16 The Court does look to Belgian law to deter-
17 mine what is in fact patented under Belgian law. And
18 it does so for Section 102(b) of Title 35 and, con-
19 trary to the Court's tentative ruling of yesterday,
20 it likewise makes that same reference or perspective
21 in considering Section 103 of Title 35. The Court
22 finds and concludes that under Belgian law, there
23 would not be a patentable concept disclosed in this
24 patent which could be enforced for the concept that
25 the outer shell is to be decorative only and the

1 inner shell is to be the load-bearing member.

2 Under Section 102(b), the Court finds that
3 the existence of the Belgian Patent did not preclude
4 the Semplonius application from being patented in the
5 United States, or from receiving protection in the
6 United States as it relates to Section 102(b). The
7 Court, however, is ruling under Section 103 that the
8 process for manufacture, as reflected in the Belgian
9 Patent and which would be entitled to protection in
10 Belgian courts, according to Belgian laws and custom,
11 is such that, considered with the prior art, one
12 skilled in that art would have clearly realized that
13 this form of construction enabled one to build the
14 outer shell freed from structural considerations
15 and relying on the inner shell alone to provide the
16 structural requirements for the chair.

17 This Court, in previous findings, has referred
18 generally to the state of the art as it then existed
19 back in the late '60's. There was, prior to either of
20 these patents, much experience in the production of a
21 single shell chair, where a single shell provided all
22 of the structural strength needed, as well as having
23 to perform decorative functions as well. The Court
24 has previously made reference to the prior history
25 of two shells being used together to form the

1 structural components for a chair. The Court has
2 made reference in earlier findings to the prior art,
3 including the use of decorative trim panels of chairs
4 not made from shells or of chairs in which part of
5 the seat or back was comprised other than by way of
6 a shell.

7 The natural consequence of the type of manu-
8 facturing process described in the Belgian Patent is
9 to produce a chair in which the inner shell is the
10 primary, if not substantially exclusive, loading-carry-
11 ing member of this chair. Part of the manufacturing
12 process described in the Belgian Patent does not make
13 sense other than if it is understood in terms of the
14 inner shell being the load-carrying member. Part of
15 the claims make little sense unless they are under-
16 stood in the context of the outer shell being freed
17 from any necessity to contribute to load-carrying
18 characteristics. This is not to say that the Belgian
19 Patent in any respect limits the outer shell to having
20 no load-carrying characteristics. It is rather that
21 the manufacturing process makes it clear and apparent
22 that it is unnecessary for the outer shell to perform
23 any load-carrying function.

24 It is of significance in understanding the
25 Belgian claim to note that at the outset, in describing

1 this invention or in specifying what it is, the patent
2 says that it is intended to develop a simple and
3 economical process for manufacture whereby the pro-
4 duct is a seat of handsome appearance. It is apparent
5 from the claims themselves that one aspect of obtain-
6 ing a handsome appearance is to provide a means for
7 concealing the fabric and upholstery on a shell chair
8 by concealing it between the shell on which one sits
9 and another shell placed outside of that.

10 While the Court agrees with the Plaintiff that
11 a figure or words to show or describe an embodiment
12 cannot enlarge a patent under Belgian law or under
13 United States law, nevertheless, they may be used
14 under either to understand and interpret what is
15 claimed in the patent, whether Belgian or the United
16 States. It is indicated that the space between the
17 two shells, and the Court has already indicated it is
18 a necessity in this type of construction that there
19 be a space, is to be such that the two shells remain
20 apart so that the seat of the chair obtains a certain
21 thickness. This again is highly consistent with the
22 original declared statement of producing a chair
23 which is of handsome appearance and yet of simple and
24 economical manufacture.

25 I agree with the Plaintiff that, when one is

1 dealing with a foreign patent under Section 103, the
2 Court does not assume that the so-called hypothetical
3 man or ordinary skill in fact had the patent itself
4 before him with all that might be disclosed therein.
5 Rather, he is assumed to have possession of the know-
6 ledge of the facts of what that patent is and what is
7 protected by the patent. It's a more limited assump-
8 tion of what the man of ordinary skill has. Neverthe-
9 less, when you take what is implicit in the claims in
10 the Belgian Patent, the Court is saying that, while
11 that does not fully anticipate the Plaintiff's patent,
12 yet, when you couple that with the prior state of the
13 art as it then existed, to a man of ordinary skill in
14 that art the idea that this outer shell need not be
15 load carrying is obvious. One may indeed assume that
16 it was so obvious that the inventor in the Belgian
17 Patent, though he was using that very same concept,
18 saw no reason even to state that as a claim because
19 of its obviousness and because of the fact that there
20 was in other chair manufacture not involving shells,
21 this same approach used.

22 The Court in its earlier findings had rules
23 that five of the claims of the Plaintiff's patent
24 were not infringed and that therefore there were to
25 be no ruling on the validity of five of those claims.

1 The Court had ruled that those claims which were Claim
2 1 or dependent on Claim 1 were infringed and valid;
3 that is, the patent was valid in those respects. The
4 Court had ruled that two of the claims in the
5 Semplonius patent were invalid, those not being
6 dependent in any respect on Claim 1. The Court is
7 now ruling that those claims which were previously
8 held to be valid and infringed are, though infringed,
9 not valid, and that the patent must fail with respect
10 to those claims.

11 This, I believe, completes the necessary
12 finding and conclusions by the Court. I'm not sure
13 of the procedures involved in view of the fact that
14 the case was pending in the Fifth Circuit and is now
15 in this Court. I do not know whether there will be
16 a necessity to re-file an appeal or whether there is
17 some other procedure involved to again have the Fifth
18 Circuit consider it. I assume that's a matter for
19 study as to how it may be re-presented.

20 Is there any question as to what the Court's
21 rules and conclusions have been? I'm not asking for
22 approval from anyone.

23 MR. TUCKER: No questions, Your Honor, from
24 the Defendant. We do appreciate Your Honor's patience
25 and indulgence. It's been a long session. We thank you.
END OF PROCEEDINGS

In reviewing criminal cases, it is particularly important for appellate courts to re-live the whole trial imaginatively and not to extract from episodes in isolation abstract questions of evidence and procedure. To turn a criminal appeal into a quest for error no more promotes the ends of justice than to acquiesce in low standards of criminal prosecution.

At trial, the prosecution convinced the jury that the defendants were guilty. On appeal, the defendants have not convinced us that there was prejudicial error. "A defendant is entitled to a fair trial but not a perfect one." *Lutwak v. United States*, 344 U.S. 604, 619, 73 S.Ct. 481, 490, 97 L.Ed. 593 (1953). Here the defendants had a fair trial.

AFFIRMED.

**ON PETITION FOR REHEARING AND
PETITION FOR REHEARING
EN BANC**

PER CURIAM:

The Petition for Rehearing on behalf of appellant Wilson, only, is DENIED and no member of this panel nor Judge in regular active service on the Court having requested that the Court be polled on rehearing en banc, (Rule 35 Federal Rules of Appellate Procedure; Local Fifth Circuit Rule 12) the Petition for Rehearing En Banc is DENIED.

As a postscript to this denial of rehearing, we add the following observation to our prior opinion, on our own motion.

In Part III. A. of our opinion, we used this case as a platform for expressing our concern about a recurring phenomenon. As we there noted, we have observed, all too often, overzealous advocacy by the prosecutor resulting in the "seeding" of a record with unnecessary rulings upon which reviewable claims of error are based. Simply because we make these observations in this case is not meant to unduly chastise the prosecutor here. We do not wish to "visit the sins" of all overzealous prosecutors on government counsel in this case. Indeed, as we are careful to point out in our opinion,

this is not the prototype example of this phenomenon. Our holding shows as much: our ultimate treatment of the evidence of the "Tommy transaction" demonstrates that the prosecutor's (not counsel who argued the appeal) success in injecting the matter was of no harmful moment. Yet, we believe that this case was an appropriate platform for our observations: objection was made to somewhat extraneous evidence; the trial judge was required to rule; error was predicated on that ruling. And, all this resulted from the prosecutor's having won a point of so little value to the prosecution that, as we have held, it did not harm the defense.



**STEELCASE, INC., a corporation,
Plaintiff-Appellant Cross-Appellee,**

v.

**DELWOOD FURNITURE CO., INC., a
corporation, Defendant-Appellee
Cross-Appellant.**

**STEELCASE, INC., a corporation,
Plaintiff-Appellant,**

v.

**DELWOOD FURNITURE COMPANY,
INC., a corporation,
Defendant-Appellee.**

Nos. 75-2170, 76-3061.

**United States Court of Appeals,
Fifth Circuit.**

Aug. 8, 1978.

Rehearing Denied Oct. 24, 1978.

Holder of design and utility patents on office chair brought action against competitor to recover for infringement. The United States District Court for the Northern District of Alabama, Sam C. Pointer, Jr., J., found the patents to be invalid for obvious-

Cite as 578 F.2d 74 (1978)

ness and patent holder appealed. The Court of Appeals, Alvin B. Rubin, Circuit Judge, held that patent No. 3,669,499 and design patent No. 225,843 covering a shell-type office chair were invalid for obviousness.

Affirmed.

1. Patents — 16

Persons granted the 17-year monopoly afforded by patent must have added the sum of useful knowledge, lest the effect of the grant be to subtract from resources formerly freely available to skillful persons.

2. Patents — 18, 37, 46

Patentability requires that an invention be useful and novel and nonobvious. 35 U.S.C.A. §§ 101-103.

3. Patents — 66(1.2)

Only explicit claims in a prior patent may be considered on the question of anticipation.

4. Federal Civil Procedure — 2646

Where failure of alleged infringer to locate a Belgian prior art patent prior to trial was not the result of lack of due diligence, it was an appropriate exercise of trial court's sound discretion to grant motion to reconsider the judgment when the Belgian patent was discovered. Fed. Rules Civ. Proc. rule 60(b), 28 U.S.C.A.

5. Patents — 112.1

Although there is a statutory presumption of validity which attaches to patents passing the scrutiny of the patent office, the failure of that office to consider pertinent prior art references will seriously weaken the presumption. 35 U.S.C.A. § 282.

6. Patents — 18

Application of the nonobviousness test depends upon several basic factual inquiries including the scope and content of the prior art, the differences between the prior art and the law at issue, and the level of ordinary skill in the pertinent art; obviousness or nonobviousness is to be determined against that background. 35 U.S.C.A. § 103.

7. Patents — 324.55(4)

Trial court's findings on basic factual issues relating to obviousness or nonobviousness are controlling unless they are clearly erroneous. Fed. Rules Civ. Proc. rule 52(a), 28 U.S.C.A.; 35 U.S.C.A. § 103.

8. Patents — 37, 51(1)

Determination of the novelty of the subject matter of the patent requires consideration of the prior art to determine whether the particular patent was anticipated; test for anticipation, however, does not relate to novelty but requires a showing of actual identity in prior art before patent will be held anticipated and thus invalid. 35 U.S.C.A. § 102.

9. Patents — 18

Obviousness of a patent may be found from the teachings of the whole of the prior art and the improvements on those teachings that would be obvious to the hypothetical person of ordinary skill in the art; court should consider not only the specific findings of a prior patent but also the inferences that one skilled in the art would draw from it; "prior art" is all of that knowledge which would have been available to any "person of ordinary skill in the art;" that person is not deemed to be omniscient but he must be assumed to share the knowledge available in his art to persons of ordinary skill wherever it may originate. 35 U.S.C.A. § 103.

See publication Words and Phrases for other judicial constructions and definitions.

10. Patents — 328(2)

Patent No. 3,669,499, relating to a shell-type office chair consisting of a three-dimensional molded plastic shell with an integral seat and back, reminiscent of an egg or clam shell, mounted on a pedestal-type base, was invalid for obviousness. 35 U.S.C.A. § 103.

11. Patents — 18

Fact that chair covered by design patent was the first to incorporate all the features which made it a commercial suc-

cess did not mean that it was patentable as beyond the obvious. 35 U.S.C.A. § 103.

12. Patents — 328(1)

Design patent No. 225,843 covering a shell-type office chair consisting of a three-dimensional molded plastic shell with integral seat and back, reminiscent of an egg or clam shell, mounted on a pedestal-type base was invalid for obviousness. 35 U.S.C.A. §§ 103, 171.

James A. Mitchell, Lloyd A. Heneveld, Grand Rapids, Mich., for plaintiff-appellant in Nos. 75-2170 and 76-3061.

W. J. Sullivan, Jr., Birmingham, Ala., for plaintiff-appellant in No. 75-2170.

Hugh P. Carter, Birmingham, Ala., Garrett R. Tucker, Jr., Alan D. Rosenthal, Houston, Tex., for defendant-appellee in Nos. 75-2170 and 76-3061.

Frank B. Pugsley, Houston, Tex., for defendant-appellee in No. 76-3061.

Appeals from the United States District Court for the Northern District of Alabama.

Before SKELTON*, Senior Judge, and FAY and RUBIN, Circuit Judges.

ALVIN B. RUBIN, Circuit Judge:

[1,2] A chair manufacturer who deliberately copied the highly successful chair being marketed by a competitor justifies his actions on the basis that the patents for the chair he copied were invalid. National policy encourages competition on the theory that the battle of the marketplace benefits consumers. Because every patent creates a monopoly, Congress has balanced the encouragement of inventions with its devotion to competition,¹ and exacted standards for patent validity that deny patent protection

* Senior Judge of the United States Court of Claims, sitting by designation.

1. Persons granted the 17 year monopoly afforded by a patent must have added to the sum of useful knowledge, lest the effect of the grant be to subtract from resources formerly freely available to skillful persons. *Great Atlantic &*

even to some successful and innovative ideas. Thus, patentability requires that an invention be useful and novel, as defined in 35 U.S.C. §§ 101 and 102, and nonobvious. 35 U.S.C. § 103. *Graham v. John Deere Co.*, 1966, 383 U.S. 1, 12, 86 S.Ct. 684, 691, 15 L.Ed.2d 545; *Gaddis v. Calgon Corp.*, 5 Cir. 1975, 506 F.2d 880. The trial court found the patents invalid for their failure to meet the standard of nonobviousness. Finding its fact findings supported by the record and its legal conclusions correct, we affirm.

I.

Steelcase obtained a design patent (843)² and a utility patent (499)³ covering shell type office chairs consisting of a three-dimensional molded plastic shell with integral seat and back, reminiscent of an egg or clam shell, mounted on a pedestal type base. Steelcase marketed this as its 451 series. The chair was lower priced than competitive models and found a ready market. Indeed, it was perhaps the most successful model ever offered on the American market. Delwood Furniture noted Steelcase's success and copied the chair.

The asserted patentable distinction between the Steelcase 451 chair and prior shell chairs is that the 451 chair consists of two independent shells, the inner one providing support and the outer one designed for appearance or decorative effect. Although the two separate chairs appear to the user to be a single unit, they are attached to form what Steelcase calls a "chair within a chair." The inner chair is a structurally complete shell chair designed with sufficient thickness and rigidity to bear the entire load of the body of the user. It could, by itself, serve adequately as a chair. This shell is placed inside a non-load bearing decorative exterior shell having suffi-

Pacific Tea Co. v. Supermarket Equipment Corp., 1950, 340 U.S. 147, 152-53, 71 S.Ct. 127, 130, 95 L.Ed. 162.

2. United States Letters Design Patent No. 225,843.

3. United States Letters Patent No. 3,669,499.

Cite as 578 F.2d 74 (1978)

cient thickness and rigidity only to hold a desired configuration.

Because the outer chair carries no load, the designers can sculpture it so as to make it aesthetically pleasing, without regard to strength or conformity to the user's anatomy. The chair can be provided with arms, each arm being a continuous member connected at the back and seat of the chair in a concealed manner by notching the structural shell and by wrapping the arm members around to the rear of the structural shell and attaching it. (The arms are discussed more fully in Part V dealing with the design patent). Virtually every reader of this opinion will have seen one of these chairs in offices of contemporary design.

In the first trial, completed in July, 1974, the design patent (843) was held invalid as an obvious alteration, modification or combination of prior art. The trial court discussed each of the eighteen claims in the utility patent (499) and held eleven either invalid or not infringed but found seven claims valid and infringed. After a supplemental hearing in which the district court found no patent misuse, both parties appealed.

[3] Delwood then discovered a Belgian patent that it contended was relevant and obtained permission to move for a rehearing before the district court. That court granted a rehearing limited to consideration of issues raised by discovery of the Belgian patent; it then reversed its earlier findings with respect to the seven claims in the utility patent and held them invalid as obvious. Although these claims of the utility patent were not anticipated by the express claims of the Belgian patent, the district court held, "[t]he process for manufacture, as reflected in the Belgian patent . . . made obvious the development of the claims in the utility patent. It reached this conclusion by considering what was implicit in the claims of the Belgian patent although only explicit claims could be considered on the question of anticipation. See *Reeves Bros., Inc. v. U. S. Laminating Corp.*, E.D. Pa. 1968, 282 F.Supp. 118, 136, and authority cited therein. Steelcase appealed both the

trial court's decision to grant a rehearing and the conclusions reached. We consider both appeals together.

II.

[4] As a threshold matter, we determine that the trial court acted within the range of discretion imparted to him under Rule 60(b), Federal Rules of Civil Procedure, when he granted the motion to consider the Belgian patent on the ground that it was newly discovered evidence.

The court implicitly determined that Delwood's failure to locate the Belgian patent earlier was not the result of lack of due diligence. In this it was not clearly in error. Having reached this factual conclusion, it was an appropriate exercise of his sound discretion to grant the motion. *Edwards v. Joyner*, 5 Cir. 1978, 566 F.2d 960; *First Wisconsin Nat. Bank of Milwaukee v. Grandlich Development Corp.*, 5 Cir. 1978, 565 F.2d 879.

III.

[5] Although there is a statutory presumption of validity which attaches to patents passing the scrutiny of the patent office, 35 U.S.C. § 282, the failure of that office to consider pertinent prior art references will seriously weaken it. *Parker v. Motorola, Inc.*, 5 Cir. 1975, 524 F.2d 518; *Gaddis v. Calgon Corp.*, 5 Cir. 1975, 506 F.2d 880. It is undisputed that the patent office did not have Belgian Patent No. 724,771 before it when it issued the utility patent or the IV and Cosco chairs when it issued the design patent. The patents in this case will, therefore, be subject to greater scrutiny in our review.

Congress has enacted a statute entitled "Conditions for patentability; non-obvious subject matter." 35 U.S.C. § 103. The statute denies patentability for non-obviousness "if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made

to a person having ordinary skill in the art to which said subject matter pertains."⁴

This doctrine is not new to us. We have considered its application many times, in some instances concluding that the patent lacked non-obviousness, *Kaspar Wire Works, Inc. v. Leco Engineering and Machine, Inc.*, 5 Cir. 1978, 575 F.2d 530; *Bird Provision Co. v. Owens Country Sausage, Inc.*, 5 Cir. 1978, 568 F.2d 369; *Robbins Co. v. Dresser Industries, Inc.*, 5 Cir. 1977, 554 F.2d 1289; *Fred Whitaker Co. v. E. T. Barwick Industries, Inc.*, 5 Cir. 1977, 551 F.2d 622; *Parker v. Motorola, Inc.*, 5 Cir. 1975, 524 F.2d 518; *Garrett Corp. v. American Safety Flight Systems, Inc.*, 5 Cir. 1974, 502 F.2d 9; *Swofford v. B & W, Inc.*, 5 Cir. 1968, 395 F.2d 362; *Zero Mfg. Co. v. Mississippi Milk Prod. Ass'n*, 5 Cir. 1966, 358 F.2d 853, and in others concluding that it was valid, *Yoder Bros., Inc. v. California-Florida Plant Corp.*, 5 Cir. 1976, 537 F.2d 1347; *Gaddis v. Calgon Corp.*, 5 Cir. 1975, 506 F.2d 880; *Hobbs v. United States Atomic Energy Comm'n*, 5 Cir. 1971, 451 F.2d 849; *Stockham Valves & Fittings, Inc. v. Arthur J. Schmitt Foundation*, 5 Cir. 1968, 404 F.2d 13; *Smith Industries International v. Hughes Tool Co.*, 5 Cir. 1968, 396 F.2d 735.

[6, 7] Directing how the statute should be applied, the Supreme Court in *Graham v. John Deere Co.*, 1966, 383 U.S. 1, 86 S.Ct. 684, 15 L.Ed.2d 545, held that the ultimate question of patent validity is one of law, but application of the nonobviousness test depends upon several basic factual inquiries: the scope and content of the prior art, the differences between the prior art and

the claim at issue, and the level of ordinary skill in the pertinent art. Obviousness or nonobviousness is to be determined against this background.⁵ See also *Sakraida v. Ag Pro, Inc.*, 1976, 425 U.S. 273, 96 S.Ct. 1532, 47 L.Ed.2d 784; *Kaspar Wire Works, Inc. v. Leco Engineering and Machine, Inc.*, *supra*. The trial court's findings on these basic factual inquiries are controlling unless they are clearly erroneous. Rule 52(a), Federal Rules of Civil Procedure; *Kaspar Wire Works, Inc. v. Leco Engineering and Machine, Inc.*, *supra*; *Bird Provision Co. v. Owens Country Sausage, Inc.*, *supra*, 568 F.2d at 372; *Parker v. Motorola, Inc.*, *supra*, 524 F.2d at 531; *Garrett Corp. v. American Safety Flight Systems, Inc.*, *supra*, 502 F.2d at 14.

IV. The Utility Patent—499

The conclusion that the utility patent embodies a development that was obvious necessarily turns on the consideration given the Belgian patent. As we have noted, the trial court viewed the art embodied in the foreign patent more broadly in determining obviousness than in deciding anticipation. In doing so, it was correct.

[8] The statute requires that, to be patentable, an invention must possess novelty of subject matter. 35 U.S.C. § 102. This requires consideration of the prior art to determine whether the particular patent was anticipated. The test for anticipation relates, however, to novelty: it requires a showing of actual identity in the prior art before a patent will be held anticipated and,

4. The Patent Act of 1952 codified existing judicial precedents. *Sakraida v. Ag Pro, Inc.*, 425 U.S. 273, 96 S.Ct. 1532, 47 L.Ed.2d 784. With respect to nonobviousness, 35 U.S.C. § 103 followed the discussions in *Hotchkiss v. Greenwood*, 1850, 52 U.S. 248, 13 L.Ed. 683; *Hollister v. Benedict & Burnham Mfg. Co.*, 1885, 113 U.S. 59, 5 S.Ct. 717, 28 L.Ed. 901; *Cuno Engineering Corp. v. Automatic Devices Corp.*, 1941, 314 U.S. 84, 62 S.Ct. 37, 86 L.Ed. 58; *Goodyear Tire & Rubber Co. v. Ray-O-Vac Co.*, 1944, 321 U.S. 275, 64 S.Ct. 593, 88 L.Ed. 721; *Great Atlantic & Pacific Tea Co. v. Supermarket Equipment Corp.*, 1950, 340 U.S. 147, 71 S.Ct. 127, 95 L.Ed. 162, rehearing denied, 340 U.S. 918, 71 S.Ct. 349, 95 L.Ed. 663.

These cases considered the standard implicit in the constitutional provision granting power to Congress "To promote the Progress of Science and [the] useful Arts" Art. I & 8, cl. 8. See *Graham v. John Deere Co.*, 1966, 383 U.S. 1, 86 S.Ct. 684, 15 L.Ed.2d 545.

5. "Such secondary considerations as commercial success, long felt but unsolved needs, failure of others, etc., might be utilized to give light to the circumstances surrounding the origin of the subject matter sought to be patented. As indicia of obviousness or non-obviousness, these inquiries may have relevancy." *Graham v. John Deere Co.*, *supra*, 383 U.S. at 17-18, 86 S.Ct. at 694, 15 L.Ed.2d at 556.

[11, 12] The chair made by Steelcase as disclosed by the 843 design patent was the first to incorporate all the features that made it a commercial success. This alone, however, does not mean that it was patentable as beyond the obvious. We have seen the various chairs displayed at the time of oral argument. The record and our view of the same chairs observed by the trial court amply support the trial court's findings as to the design patent.

The trial court found that there was a tendency in the art of chair design at the time the design patent was issued to concentrate on minor modifications of existing design and construction, on imitation as distinguished from invention. Of necessity, examination of the level of skill in the art under consideration is a *sine qua non* to determining what would have been obvious to a person of ordinary skill in that particular art because it defines the skill possessed by that hypothetical person, neither a genius nor a dolt, versed only in the particular field ("art") under consideration. See *Schnadig Corp. v. Gaines Mfg. Co., Inc.*, 6 Cir. 1974, 494 F.2d 383, 388; *Reeves Instrument Corp. v. Beckman Instruments, Inc.*, 9 Cir. 1971, 444 F.2d 263. The trial judge did not expressly compare the talent of the designer with what appellant correctly characterizes as "the low level" in the chair design field, but, inferentially, he did so and concluded, with substantial support from the record, that the design would have been obvious to persons merely of ordinary skill even if they possessed less talent than Steelcase attributes to its designer.

The trial court had the opportunity to compare the design chairs with designs embodying the prior art. It found small differences between the 451 chair and a chair formed by the Pollock body, the IV arms, and the Cosco concealment concept for arm attachment. It also considered other chairs embodying similar designs. Whatever novelty might be involved in the combination disclosed by design patent 843 was, it found, the type of improvement that would be concentrated on, and familiar to, designers in the art.

In addition, it found that the practice of the industry to concentrate on minor modifications of existing designs suggested that a chair consisting of a combination of parts from prior art would be obvious to a person of ordinary skill in that art. These are factual findings, and they are to be upheld unless clearly erroneous. *Bird Provision Co. v. Owens Country Sausage Inc.*, 5 Cir. 1978, 568 F.2d 369; *Hughes Tool Co. v. Varel Mfg. Co.*, 5 Cir. 1964, 336 F.2d 61. Because these fact findings are supported by the record and the legal conclusion of the design patent's invalidity based thereon is not in error, we AFFIRM.



Bentura FLORES, Petitioner-Appellant,

v.

W. J. ESTELLE, Jr., Director, Texas
Department of Corrections,
Respondent-Appellee.

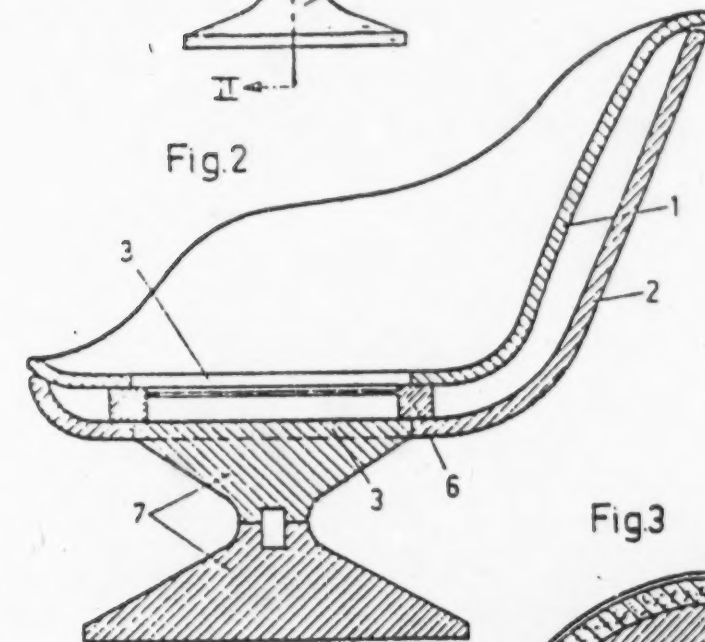
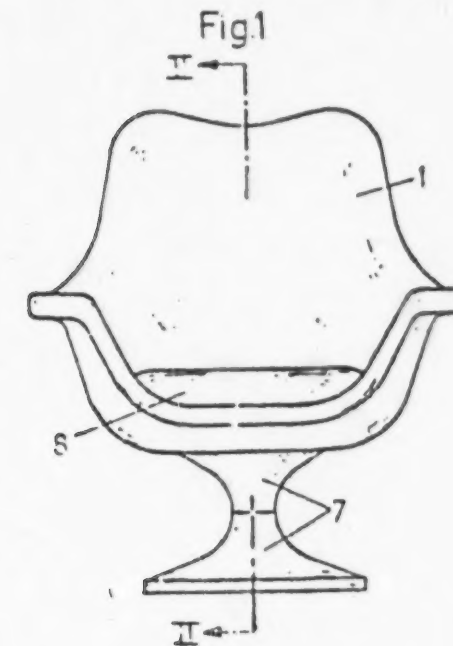
No. 77-2558.

United States Court of Appeals,
Fifth Circuit.

Aug. 8, 1978.

Rehearing Denied Oct. 25, 1978.

Convicted defendant, who pled guilty to state offense, sought habeas corpus relief asserting that his plea was involuntary and was induced by state judge's participation in plea bargaining and by other improper pressures on him. The United States District Court for the Western District of Texas, Dorwin W. Suttle, J., denied relief without holding an evidentiary hearing, and defendant appealed. The Court of Appeals, Alvin B. Rubin, Circuit Judge, held that: (1) since defendant was given opportunity to develop evidence on issue of voluntariness of plea at state habeas corpus proceeding, evidentiary hearing at federal habeas level was not indispensable; (2) record sup-



2 december 1968

de personenvenootschap met beperkte aansprakelijkheid :
"Etablissements La Renaissance - G. en J. D'haeyere"

Enige pl.
Etablissements La Renaissance - G. en J. D'haeyere

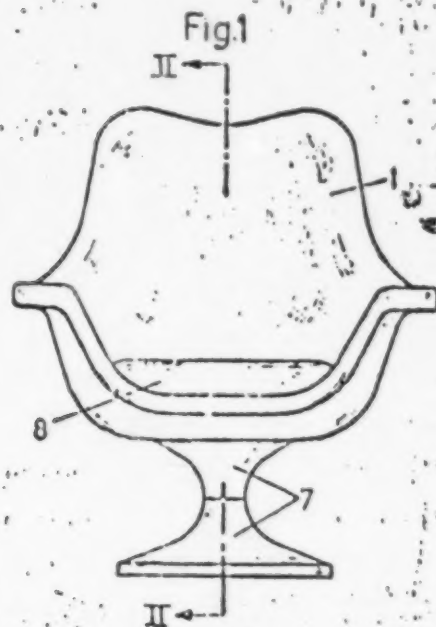


Fig. 2

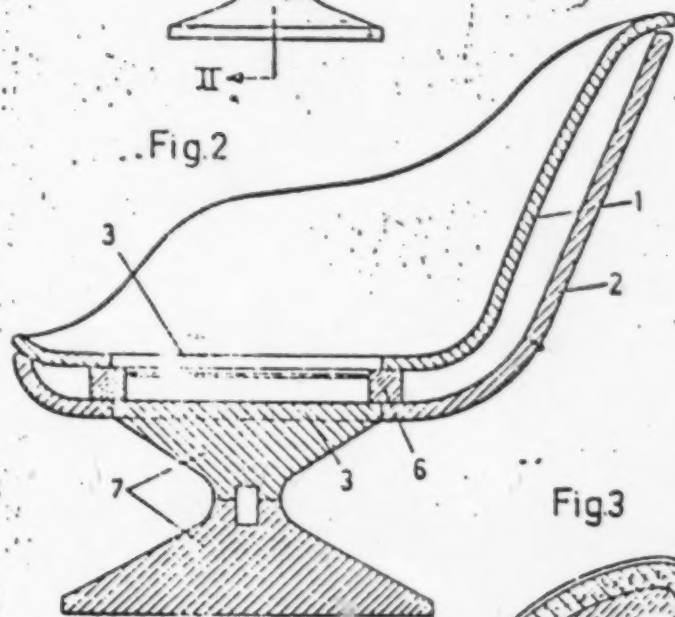


Fig. 3



den 2 december 1968

de personenvennootschap met beperkte aansprakelijkheid
Etablissements La Renaissance - G. en J. D'haeyere

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W. P. VON SCHMERTZING, PH.D.
DIRECTOR

TELEPHONE
DISTRICT 7-1999

THE KINGDOM OF BELGIUM

no. 724,771

MINISTRY OF ECONOMIC AFFAIRS

PATENT OF INVENTION

The Minister of Economic Affairs

in view of the patent law of 24 May 1854;

in view of the official report of 2 December 1968, 2:45 p.m. filed
at the Office of Industrial Property

DECREES

Article 1. There is granted to Etablissements La Renaissance G. and J.

D'haeyere Ltd., Menenstraat 14, Ledegem

represented by J. Gevers & Co., of Brussels

a patent of invention for: Process for the manufacture of a seat,
and seat manufactured according to the process.

Article 2. This patent is granted without preliminary examination, on its
own account, without guarantee either of its substantiality,
novelty or merit, or of the accuracy of the description, not
diminishing the rights of third parties.

The duplicate copy of the specification and drawings, signed by the party
concerned, will substantiate his patent application.

Brussels [illegible]

The Director General

The invention relates to a process for the manufacture of a seat.

The invention is intended to develop a simple and economical process for manufacture, whereby the product is a seat of handsome appearance.

For this purpose, two shells are produced, one shell is pushed at least partly over the other, and the two shells are fastened to each other and then fastened to a foot.

In a special embodiment of the invention, two shells are produced that have a recess, and the shells are pushed over each other in such a way that the recesses come opposite each other. At least one of these two recesses is at least partly closed by a base element that is fastened with reference to at least one of the shells.

Preferably the base element of the two shells is fixed so that it at least partly closes the recess of the two shells, and fastens the two shells with reference to each other.

In a noteworthy embodiment of the invention the shells are made in such a way that when they are pushed over each other and the recesses come opposite one another, the outermost edges of the shells at least partly almost coincide.

Advantageously the two shells are fixed to each other approximately at the place of the almost coinciding outermost edges, by means of an adhesive.

In a preferred embodiment of the invention, before the two shells are fastened together, at least one of the shells is covered at least partly, at least on one side, with a covering.

Advantageously, in pushing the two shells together, the edges of the covering are clamped between the two said shells.

The invention also relates to a seat manufactured according to the process, as in one of the above embodiments.

Other features and advantages of the invention will become evident

from the following description of a process for manufacture of a seat, and of a seat made by the said process. This description is presented solely as example and does not limit the invention. Reference numerals refer to the attached drawing.

Fig.1 is a front view of a seat made according to the process of the invention. Fig.2 is a cross section along line II - II of Fig.1, whereby the covering of the seat is not indicated.

Fig.3 is a detail of a part of the cross section of Fig.2, showing the covering of the seat.

In the different figures the reference numerals relate to the same elements.

To make the seat shown in the figures, said seat being a chair, the process is as follows.

Two shells 1 and 2 are made of plastic. Each of the two shells 1 and 2 has an identical recess 3 near the side edge of the shell, at a small distance from the side edge. The configuration of shells 1 and 2 is such that shell 2 can be pushed over shell 1, so that recesses 3 come just opposite each other while the outermost edges of the shells coincide. Shell 1 which is to constitute the inside of the chair is covered on the inside with a covering formed by a layer of foamed plastic 4 whereon a fabric 5 is bonded. Using a press, this covering is glued to the inside of shell 1, with the layer of plastic 4 turned toward the shell. Covering 4, 5 protrudes a little with its edges beyond the outermost edge of shell 1, and a little into recess 3. At about the same time as the covering of shell 1, a base element 6 is fastened to the outside of the part of the shell around recess 3. This base element 6 has a frame of elastic material between the sides of which there run strips of elastic material. This base element 6 in this way partly closes off recess 3 in shell 1. The frame of base element 6 is fixed to shell 1 by

rivets. The width of the sides forming this frame, and their length, is such that these sides partly come against shell 1, and partly come opposite recess 3. In fastening base element 6 on shell 1, the edges of covering 4,5 that extend into recess 3 are clamped between the frame of the base element and shell 1.

By means of the other press jaw, whereof the form corresponds to the outer edges of shell 2, a covering is glued onto the outside of shell 2, said covering likewise comprising a layer of foamed plastic 4 and a fabric 5. This covering 4,5 extends with its edges beyond the outermost edge of shell 2 and into recess 3 of said shell. By bringing together the jaws of the press, shell 2 is now pushed over shell 1 so that recesses 3 in the two shells come opposite each other and the outermost edges of the two shells come toward each other. The configuration of the two shells is such that, except at their edges, they remain apart so that the seat obtains a certain thickness. Around recess 3 the distance between the two shells 1 and 2 is approximately equal to the thickness of the frame of base element 6. When shells 1 and 2 are brought together, the edges of covering 4,5 that extend beyond the outermost edge of shells 1 and 2 are clamped between the two shells 1 and 2 after the edges of the covering have been folded around the outer edges of the shells. Of course the outermost edges of the two shells that are opposite each other are glued together. The edge of covering 4,5 that extends into recess 3 of shell 2 is also folded over the edge of shell 2 that delimits recess 3. This folded-over edge of the covering is clamped between shell 2 and the frame of elastic material of base element 6. Shell 2 is thereafter riveted to base element 6. The two shells 1 and 2 are thus not only glued together at their outermost edges but also fastened together by base element 6.

Since recess 3 in shell 2 is approximately equal to that in shell 1,

the frame of the base element 6 partly comes against the inside of the part of shell 2 that is around recess 3, and likewise is partly opposite recess 3 in said shell 2. A foot 7 is fixed to the part of the frame of base element 6 that is opposite recess 3. This foot has approximately the form of two cones joined at their apexes. The two conical parts of foot 7 are rotatable with reference to each other, and they have a covering. Along the side of shell 1, cushion 8 is placed on resilient base element 6. In this way a chair as illustrated in the figures is produced.

The invention is in no way limited by the embodiment described above. Within the scope of the patent application, there may be many modifications as to form, assembly, arrangement, number of parts, used to embody the invention.

C L A I M S

1. Process for manufacture of a seat, characterized in that two shells are prepared, and one shell is at least partly pushed over the other, and the two shells are fixed to each other, said shells being fastened to a foot.
2. Process as in the above claim, characterized in that two recessed shells are prepared, and the shells are pushed over each other in such a way that the recesses are opposite each other and at least one of these two recesses is closed at least partly by a base element that is fastened to at least one of the shells.
3. Process as in the above claim, characterized in that the base element is fixed to the two shells so that it at least partly closes the recess of the two shells and fastens the two shells with respect to each other.
4. Process as in the above claim, characterized in that the base element is first fixed to one shell, whereafter the two shells are pushed over each other and the second shell is fixed to the base element.
5. Process as in one of claims 2 to 4, characterized in that the base element is riveted to at least one of the shells.

6. Process as in one of claims 2 to 5, characterized in that at least one of the recesses is at least partly closed by a resilient base element.
7. Process as in the above claim, characterized in that at least one of the recesses is at least partly closed by a base element that presents at least two rodlike elements made of elastic material, which is fixed to one shell, while between these elements there runs at least one strip of elastic material.
8. Process as in the above claim, characterized in that at least one of the recesses is at least partly closed by a base element formed by a frame made of elastic material, whereby between at least two sides of the frame there run strips of elastic material.
9. Process as in one of claims 2 to 8, characterized in that the foot is fastened to the base element.
10. Process as in one of the above claims, characterized in that the shells are made in such a way that when they are pushed over each other and the recesses come opposite each other, the outermost edge of the shells at least partly almost coincide.
11. Process as in the above claim, characterized in that the two shells are fixed to each other, about at the place of the almost coinciding outermost edges, by means of an adhesive.
12. Process as in one of the above claims, characterized in that before the fastening together of the two shells, at least one of the two shells is at least partly covered with a covering, on at least one side.
13. Process as in the above claim, characterized in that by [sic: before?] the fastening together of the two shells, the two shells are at least partly covered with a covering, on at least one side.
14. Process as in one of claims 12 and 13, characterized in that the covering is glued to the shell.

15. Process as in one of claims 12 to 14, characterized in that the shell is at least partly covered on at least one side with a covering that consists of at least one layer of foamed plastic and a fabric.
16. Process as in one of claims 12 to 15, characterized in that in the pushing together of the two shells the edge of the covering is clamped between the said two shells.
17. Process as in one of claims 2 to 9, and according to one of claims 12 to 16, characterized in that the covering of the shell is clamped at least partly between the base element and the shell.
18. Process as in claim 14, characterized in that the covering is glued to the shell and the two shells are pushed into each other by the intervention of a press whereof the two jaws conform to the configuration of the two shells.
19. Process as in one of claims 2 to 9, characterized in that a cushion is placed on the base element.
20. Process as described.
21. Seat made according to the process of one of the above claims.
22. Seat, as described or as presented in the drawings.

neers and laboratory technicians, the time expended by them in conducting these tests.

Q. How does the cost to Steelcase of developing the 451 Series chair compare to the cost you had in developing other chairs?

A. Well, it's several times more than any expenses incurred in testing any other chair previously. Primarily because it's a new and unusual design necessitated proving the new concept. We just couldn't extrapolate previous results on other chairs, but had to in fact start from scratch, so to speak, and test everything.

(494)

Q. Now when you say that the development cost was several times higher, are you excluding or including the tooling costs?

A. Development cost is several times higher. The tooling cost is considerably more. Was considerably more than any other chair line we had ever produced.

Q. Now were you aware at some time during the ongoing of the project that the development cost was running high?

A. Yes, we were. We had — we have budgets, departmental budgets and naturally I'm held accountable for expenditure of money. And we have to stay within the budget for the department. And I wasn't aware of the dollars spent each month until this recapitulation, recapture of costs. But I was aware of all the people that were working on it. And it was disproportionate, actually, the number of people at the time that were working on this particular chair development.

Q. Were you concerned at that time about the high cost of the development?

A. Yes. The chair had to be a success or else I would be in trouble.

Q. Has Steelcase been able to recover these (495) development costs in the cases of the 451 Series chair?

A. Definitely. It's probably one of the best investments we ever made. We will be glad to invest that type of money on development for that return any time, been by far the most successful and profitable chair we have ever produced, and to the best of our knowledge it is the most highest volume selling chair that was ever produced in our industry.

Q. Let's go back now in the history of the development, back to the early days when you were first exposed to the structural concept of the one shell for structure shaped for one purpose and the outer shell for shaped for appearance.

I think I may have asked you this, but just to be certain, what was your reaction to this concept when you were first exposed to it?

A. Well, early in '68, when Steve and Frans proposed the structure, at first I was very dubious. I felt very dubious about it. I think I mentioned this possibly it seemed like there was a redundancy of a structure, two shells, you know. And I was concerned that the chair might be more expensive than we had hoped for. And because of that I asked them to work on concurrently, you know, don't give up working on the

MANUAL OF PATENT EXAMINING PROCEDURE

Original Third Edition, dated November 1961

Latest Revision July 1978



U.S. DEPARTMENT OF COMMERCE • PATENT AND TRADEMARK OFFICE

Rev. 56, July 1978

901.05(a)

- [23] Other date(s) of filing, including exhibition filing date and date of filing complete specification following provisional specification¹
- [30] Convention priority data²
- [31] Number(s) assigned to priority application(s)¹
- [32] Date(s) of filing of priority application(s)¹
- [33] Country (countries) in which priority application(s) was (were) filed¹
- [40] Date(s) of making available to the public
- [41] Date of making available to the public by viewing, or copying on request, an unexamined document, on which no grant has taken place on or before the said date¹
- [42] Date of making available to the public by viewing, or copying on request, an examined document, on which no grant has taken place on or before the said date¹
- [43] Date of publication by printing or similar process of an unexamined document, on which no grant has taken place on or before the said date¹
- [44] Date of publication by printing or similar process of an examined document, on which no grant has taken place on or before the said date
- [45] Date of publication by printing or similar process of a document, on which grant has taken place on or before the said date
- [46] Date of publication by printing of similar process of the claim(s) only of a document¹
- [47] Date of making available to the public by viewing, or copying on request, a document on which grant has taken place on or before the said date¹
- [50] Technical information
- [51] International Patent Classification
- [52] Domestic or national classification
- [53] Universal Decimal Classification¹
- [54] Title of the invention
- [55] Keywords¹
- [56] List of prior art documents, if separate from descriptive text
- [57] Abstract or claim
- [58] Field of search

Notes concerning the application of INID Codes to U.S. patents:

¹ This item is either not applicable to U.S. patents or, if applicable, is either not coded or not assigned this code.

² The respective specific data elements within this category are not individually coded. They are printed in a particular format under the caption "Foreign Application Priority Data" which is identified by the INID Code [30].

³ The specific data applicable to a particular patent is printed under the caption "Related U.S. Application Data." Where the relationship is due solely to division or to continuation and/or continuation-in-part, the data is identified by the appropriate specific INID Code, i.e., [62] or [63], respectively. Where the relationship is due to any combination of these two specific sub-categories, the data is identified by use of the generic INID Code [60].

- [60] Reference(s) to other legally related domestic document(s)¹

[61] Related by addition(s)¹

[62] Related by division(s)

[63] Related by continuation(s)

[64] Related by reissue(s)

- [70] Identification of parties concerned with the document

[71] Name(s) of applicant(s)¹

[72] Name(s) of inventor(s) if known to be such¹

[73] Name(s) of grantee(s)

[74] Name(s) of attorney(s) or agent(s)¹

[75] Name(s) of inventor(s) who is(are) also applicant(s)

[76] Name(s) of inventor(s) who is(are) also applicant(s) and grantee(s)

Codes [75] and [73] are intended primarily for use by countries in which the national laws require that the inventor and applicant are normally the same. In other cases [71] and [72] or [71], [72] and [73] should generally be used.

901.05 Foreign Patent Documents

All countries do not issue their patent specifications in printed form. In some countries, there is a delay between the date of the patent grant and the date of publication. Generally, a foreign patent should not be cited as a reference unless the examiner has seen the patent.

Citation data pertaining to those countries from which the most patent publications are received are given in the following sections. Additional information can be obtained from the Scientific Library.

901.05(a) Citation Data

Foreign patent publications that use Arabic and Roman numerals in lieu of names to indicate the date, show in order the day, month, and year. Roman numerals always refer to the month.

Japanese patent application publications show the date in Arabic numerals, by indicating in order the year of the reign of the present Emperor, the month, and the day. To convert the Japanese year of the Emperor to the Western calendar year, add 1925 to the Japanese year. For example: 40-3-6 = March 6, 1965.

Foreign language, alphabetical lists of the names of the months, and of the names and abbreviations for the United States of America are shown on the following page. The lists set forth only selected, commonly encountered foreign language names, and do not include those which are similar to the English language names and thus easily translatable.

In using the lists, identification of the foreign language (except for Russian), is not necessary.

901.05(a)

The translation into English is ascertained by alphabetically locating the foreign language name on the list.

The list of the foreign language names and

abbreviations for the United States is useful in determining whether a foreign language patent publication indicates the filing of a similar application in the United States.

Alphabetical List of Selected Foreign Language Names of Months

agosto	August	maggio	May
goût	August	Mai	May
augusti	August	Maj	May
avril	April	maja	May
bfezen	March	maraskum	November
června	June	marca	March
červena	July	mars	March
czerwea	June	Marts	March
décembre	December	März	March
dicembre	December	marzo	March
dubna	April	mei	May
elokuu	August	ottobre	October
febbraio	February	pazdziernika	October
Feber	February	prosina	December
februari	February	fiina	October
février	February	settembre	September
gennaio	January	sierpień	August
giugno	June	srpna	August
grudnia	December	styczeń	January
heinäkku	July	syyskuu	September
helmikuu	February	tammikuu	January
huhtikuu	April	toukokuu	May
Jänner	January	unora	February
janvier	January	września	September
joulukuu	December	zari	September
juillet	July		
juin	June		
kesäkuu	June		
kyetna	May		
kvietsnia	April		
leden	January		
lipca	July		
listopad	November		
listopada	November		
lokakuu	October		
luglio	July		
lutego	February		
maaliskuu	March		
maart	March		

RUSSIAN

август	August
апрель	April
декабрь	December
июль	July
июнь	June
май	May
март	March
ноябрь	November
октябрь	October
сентябрь	September
февраль	February
январь	January

Alphabetical List of Selected Foreign Language Names and Abbreviations for the United States of America

Amerikas Forenta Stater	Stati Uniti d'America
De Forenede Stater av Amerika	S. U.
EE. UU.	S. U. A.
E. U.	S. Z. A.
E. U. A.	V. St. A.
E. U. A. m.	V. St. v. A.
Etats-Unis d'Amérique	Ver. St. V. Am(erika)
Sp. St. A.	Vereenigde Staten Van Amerika
Spoj. St. Am.	Vereenigde Staten Van Noord-Amerika
Spojene Staty Amerike	Vereinigten Staaten Von Amerika
Stany Zjednoczone Ameryki	Voreneide Stater i Amerika

ICIREPAT Country Identification Code Letters

AU	Australia	FR	France	OE	Austria
BE	Belgium	GB	United Kingdom	PO	Poland
CA	Canada	HU	Hungary	RU	Rumania
CH	Switzerland	IN	India	SF	Finland
CS	Czechoslovakia	IT	Italy	SU	USSR
DK	Denmark	JA	Japan	SW	Sweden
DL	East Germany	NL	Netherlands	US	USA
DT	Germany, Fed. Rep.	NO	Norway	YU	Yugoslavia
EI	Ireland				

901.05(b) Other Significant Data [R-48]

Occasionally, the exact date of foreign patenting becomes material. In the case of Australia, Austria, East Germany, India, Ireland, United Kingdom and U.S.S.R., it does not appear on the printed copies of the patents. If necessary, this information can be secured from the Scientific Library.

For the effective dates of Belgian patents, see the Memorandum of March 2, 1959, which has been reproduced in 41 J.P.O.S. at page 440.

For the effective dates of Italian patents, see the Memorandum of October 25, 1960 distributed to all examiners and published in 42 J.P.O.S. 795-8.

Comments concerning German, French and Belgian procedure in granting patents are found in *Ex parte Gruschwitz et al.*, 138 USPQ 505. This case did not involve anticipation but the bar of foreign patenting under 35 U.S.C. 102(d). The Board of Appeals has held that a Japanese application was "patented" upon its publication date, *Ex parte Iizuka*, 171 USPQ 50.

A German Offenlegungsschriften publication is not considered to be a patent under 35 U.S.C. 102(d), *Ex parte Links*, 184 USPQ 429 (Bd. of Appls. 1974). However, a German Auslegungsschrift publication is considered to provide the legal effect of a patent under 35 U.S.C. 102(d), *Ex parte Beik and Thiele*, 161 USPQ 795 (Bd. of Appls. 1968).

Some countries issue patents of addition and they should be identified as such and, when separately numbered as in France, the number of the addition patent should be cited.

"Patents of addition" generally cover improvements of a patented parent invention and can be obtained by the proprietor of the parent invention. Inventiveness in relation to the parent invention need not be demonstrated and the term is governed by the term of the parent patent.

For citation of the number of pages of drawing and specification, see § 707.05(e).

Some foreign countries list the references cited during the prosecution. These, especially if they are U.S. patents, may be helpful, either as references of interest to the examiner or to suggest an overlooked field of search.

For additional information on foreign patent practices see "Foreign Patent Material" by P. J. Federico, 54 JPOS 102 and 147, February and March, 1972.

FEDERAL REPUBLIC OF GERMANY

German allowed applications have been issued in printed form beginning September 1,

1955. Those printed from this date up to December 31, 1956, are captioned "Patentanmeldung." They should be cited as "German printed applications" and identified by the name of the applicant, the serial number of the application, and the date of publication. They are printed on white paper. The applications printed after January 1, 1957, are printed on green paper and are captioned "Auslegungsschrift" and have an additional number which is larger than 1,000,000 and which will be the number of the patent, if issued. This new number should be used instead of the original serial number. When and if the patent is granted, the specification is printed again on white paper with the same number.

On October 1, 1968, the West German Patent Office shifted to a deferred examination procedure. Under this procedure all pending applications are printed on yellow paper at 18 months after the filing or claimed priority date as "Offenlegungsschriften". The numbering system is larger than 1,400,000.

German Utility Models (Gebrauchsmuster) may be used as references as prior patents, but not as prior printed publications since the full specifications are not printed effective as of their registration date. When necessary, the Librarian will obtain the complete text of the specification from the German Patent Office. A file of such copies is maintained in the Scientific Library.

NETHERLANDS

Netherlands applications, unless withdrawn, are printed beginning January 1, 1964. They are captioned "Octrooiaanvrage". They should be cited as Netherlands applications giving the number, date of publication, "Datum van ter inzagestelling", name of applicant, "Aanvrager", and data customarily given in citing foreign patents.

UNITED KINGDOM

Certain United Kingdom applications had become void and hence lack a date of acceptance. Nevertheless, they were given a number in the patent series. The date of publication (year only) is given following the statement "Printed for His Majesty's Stationery Office." and this should be cited.

British specifications prior to 1916 have printed in large heavy type at the head of the first page of the specification a number and year, as 1451 A.D. 1912. This, together with the name, as required by the rules, is always the proper citation of the patent. The year given at the head of the specification is either the year of filing or the year of acceptance, but in either case it is the official designation of the patent.

The year printed on the drawing is not always the year for correct designation of the patent. Where it is not, the correct year is shown by a small superior number or exponent placed to the right and above the serial number of the patent, as—

1910—No. 499¹¹
1912—No. 19421¹²

In instances of this kind the patent should be cited as No. 499 of 1911 or No. 19421 of 1913.

FRANCE

The date of recent French patents to be taken as the effective date as a patent for reference purposes is the date of the Official Bulletin of the French Patent Office (Bulletin Officiel de la Propriété Industrielle) in which the granting of the patent was announced. This date does not appear on the printed copies of the specifications of the patents. The printed copies give the date the patent was granted (délivré) and the number of the particular issue of the Official Bulletin in which the granting of the patent was announced. The date of the issue of the Bulletin, if needed, may be obtained from the Bulletin itself in the Library and would be about five or six weeks later than the granting date. The granting date may be used for citation purposes but if the precise date is critical the effective date should also be given.

The date used as the effective date when the patent is used as a patent (rather than as a printed publication which date is later) has been the date on which the patent was granted, indicated on the printed copies by the word "délivré", as was established by decisions of the courts, the Commissioner, and the Board of Appeals. Owing to a change in the practice in the French Patent Office whereby the specifications of granted patents are now not available to the public until the date of the Official Bulletin, it is necessary to apply *In re Af Ekenstam*, 45 CCPA 1022, 256 F.2d 321, 1958 CD 402, 734 OG 290, 118 USPQ 349; and use the date on which the specification became available to the public as the effective date as a reference. This practice will apply to recent French patents, going back to number 1,148,401 announced in the Official Bulletin of July 11, 1957 and back to patent of addition number 67,251. No change in practice is indicated with respect to French patents prior to these numbers.

SWITZERLAND

The effective dates of Swiss patents are discussed in *Ex parte Reuge*, 115 USPQ 51 and in *Ex parte Appeal No. 194-38*, 1966 CD 31, 152 USPQ 70. It should be noted that two dif-

ferent systems are in operation in Switzerland. The majority of patents are issued without search and examination in the light of references, and the date used for these is the publication (veröffentlicht, publié, pubblicato) date. In two fields, inventions relating to time-keeping, and inventions relating to the non-mechanical treatment of textiles and fibers, applications are searched and examined in the light of the prior art and the procedure differs from that followed in the other cases; it follows, in general, the procedure in the Federal Republic of Germany as described in *Ex parte Gruschwitz et al.*, 1963 CD 859, 138 USPQ 505. Patents which have been issued under the examination system can be recognized from information given in the heading which refers to the publication of the application (the French and German language applications, Demande publiée and Gesuch bekanntgemacht, respectively). As in the German practice, when a case is found allowable by the examiner the application is published for opposition and the specification is issued in printed form (also referred to as Auslegungsschrift, German and Mémoire expose, French). These printed copies have not been received by the Office. If it becomes necessary in connection with a Swiss patent issued under the examination system to establish a date earlier than the date the patent was granted, the library can obtain a copy of the earlier printed application from the Swiss Patent Office.

901.05(c) Obtaining Copies [R-28]

Photocopies of foreign patents can be ordered by an examiner for placement in the shoes of a class in which he examines, if the patents would be of frequent use in that class (§ 905.01)

901.05(d) Translation [R-48]

Examiners may request translators in the Reference Section of the Scientific Library to assist them orally or with written translations of any specifications in languages with which the examiner is not familiar. (See § 901.06(a), *Translations—Requests for Translations*, and § 903.03, *Classification of Foreign Patents*, below.) Alternative versions of specifications, in English or other languages known to the examiner, can commonly be found. Searches for alternate versions are performed in the Foreign Patent Records and Stack Service Section of the Scientific Library. As a substitute for translation, this service materially reduces the apparent problem posed by a foreign language specification.

Journal

of the



In This Issue

- What's New With Novelty—Section 103 Of S.643
- Foreign Patent Material (Part 1)
- The New Patent Law: Some Salient Features (India)

110

Journal of the Patent Office Society

determining it. In some countries it is a specified number of years after the date of grant (U. S., Canada) but in many the patent expires a specified number of years after the filing date (16 in England, 18 in Germany, 20 in France) even though the patent rights might not commence until a later date; other variations exist.

Most countries require the payment of annual or periodical fees to maintain a patent in force. These may start a few years after filing, and increase each year. If not paid within the time allowed the patent lapses and is no longer in force.

3. STATUTORY BASIS: SECTIONS 102(a) AND (b)

Section 102(a) of Title 35 provides that a patent cannot be obtained if "the invention was . . . patented or described in a printed publication in this or a foreign country, before the invention thereof by the applicant . . ." while section 102(b) provides that a patent cannot be obtained if "the invention was patented or described in a printed publication in this or a foreign country . . . more than one year prior to the date of the application for patent in the United States." The common phrase in these two quotations "patented or described in a printed publication in this or a foreign country" refers to two different things and can be separated as follows:

1. "patented . . . in this or a foreign country"
2. "described in a printed publication in this or a foreign country."

These are two different sources of references, namely (1) *foreign patents* (we are not concerned with U. S. patents here) and (2) *printed publications*, which can be used for finding anticipation under section 102 or for finding obviousness in view of section 103.

The published specifications of foreign patents with which we are concerned have a dual aspect; they are printed publications, and at the same time they represent foreign patents. There may be, and usually are, two dif-

ferent effective dates for reference purposes, one the effective dates when used as a printed publication, and the other the effective date when used as a foreign patent. (The term "effective date" is here used to indicate the date we consider the document effective for the purpose we intend to use it; the same date may have little or no significance in the country of origin.) When used as printed publications everything disclosed in the specification is available for use, and the laws under which they were issued are irrelevant. When used as foreign patents some matters disclosed in the specification might not be available for use (see below), and complexities of foreign laws may arise in interpretation and in determining the effective date.

Excluding the U. S. and the extremely few, if any, which act similarly, three categories of countries can be distinguished.

1. Countries in which the specification is issued in printed form *before* the patent is granted. These include those countries which so publish the specifications at the time of publishing for opposition, and those countries which so publish the specifications of pending applications a certain time after filing. Probably the majority of specifications now received and placed in the search files are of these kinds. Since there is a printed publication of earlier date, the date (and also whether or not) the patent is granted becomes irrelevant. Where the specification is printed again when the patent is granted, the later copies are sometimes no longer placed in the search files. The specification of the patent might differ from the previously published specification in some instances, but normally this would consist only in a narrowing of the claims with possibly a corresponding reduction of the specification. The application, the specification of which was issued in printed form, may be still pending or may have become abandoned; these facts are immaterial to the use of the printed specification as a printed publication.

2. Countries in which the specification is issued in printed form *only after* the patent is granted. Where the printed publication date is early enough for all purposes the fact of patenting is not important. But since the patenting date is earlier, the foreign patent can be used as a patent when the printed publication date is not early enough or has been overcome by an affidavit under Rule 131. The effective date as a patent may be the actual date the patent was granted or some date which has been established for this purpose. In some countries the specification is issued in printed form so soon after the patent is granted that the question of establishing the earlier patenting date has not even arisen.

3. Countries in which the specification is *not issued in printed form*. These form the majority from the standpoint of the number of countries, but form a small minority with respect to the proportion of patents issued. Occasionally one is called to an examiner's attention, as in a motion to dissolve an interference; these can only be considered as patents and treated in the same manner as would be patents of group 2 countries above when a copy is obtained before the specification was printed, and the German short term minor patents (see under Germany in Part 2).

The basis for using a foreign patent *as a patent* is the expression in the statute "patented . . . in . . . a foreign country" which has been quoted above. Hence it is the subject matter which has been patented in the foreign country which is the reference and not necessarily everything disclosed in the specification. Suppose the specification of the patent discloses two separate and distinct devices, A and B, and all the claims are restricted to A: the disclosure of B in the specification cannot be referred to at all. An extreme example like this is not apt to occur, and in the normal case that comes before the examiner there is little or no difference between the disclosure and what is patented. It is not always necessary for details relied upon to be specifically recited in the claims of the foreign patent since it is not the claims

which is the reference but, in the language of the statute, the invention that has been patented. Once having determined what subject matter is available in the foreign patent for reference purposes, it can be used for anticipation or as a basis for determining obviousness, but any remaining subject matter must be blocked out of consideration. Office practice is illustrated by *In re Fuge*, 124 U.S.P.Q. 105, 1960 C.D. 73 and *Ex parte Ovist et al*, 152 U.S.P.Q. 709. Recent infringement suit decisions are *Reeves Bros. Inc. v. U.S. Laminating Corp., et al.*, 157 U.S.P.Q. 235 (Dist. Ct., E.D. N.Y. 1968) and *The Bendix Corp. et al v. Balax, Inc. et al.*, 164 U.S.P.Q. 485 (C.A. 7, 1970). There are still, however, a number of matters that need clarification and the result for some situations can only be determined when they arise.

4. GENERAL INFORMATION

a. *Copies of Printed Specifications.* The Patent Office receives, through the Library, copies of the printed specifications of patents, and of applications, from nearly all the countries which issue them in printed form. This is by exchange arrangements with the countries involved. Practice has changed in recent years with respect to the number of copies received, the type of records kept, and distribution of the copies. One copy is maintained in a bound set in numerical order on the shelves of the Library. However, beginning in 1970, the bound numerical set has been discontinued for the major countries and a microfilm set for the recent period is maintained instead. The sets arranged according to the classification system of the particular country, which were maintained for some countries, have been discontinued and placed in storage for want of space. Most important, one copy is sent to the Examining Groups for classification into the U.S. system and placing in the search files, see MPEP section 903.03. Copies from nearly all of the countries received are so forwarded, most foreign language ones now being accompanied by an English language abstract. Beginning in 1970, however, the

A. Specification was very clear and complete, but the need for clear and complete specification is only one of the requirements, the other main requirement being the intent of the patentee to show what he wants to protect and this was not expressed.

Q. Let me give you a hypothetical. What if there is a patent and in this patent there are four features, and for purposes of demonstration, just examples, I will call those features A, B, C and D. Now, those were all clearly described in the patent, however, there were only three claims and those claims were first claim, related to feature A, the second claim related to feature B and the third claim was an omnibus claim similar to that which you read in relation to the Liege case. Would you tell the Court in your opinion, what would be considered patented under the Belgian law in that patent, what features?

A. Features A and B, sir.

Q. Despite the fact that C and D were clearly described in the patent?

A. They may be clearly described, but if the patentee has not expressed his intent to protect these (435) features C and D, they would not be regarded as patented, even if they were very well described, clearly described.

Q. Would that be the same if the features C and D were kind of vague and it wasn't clear from the specification as to what they really were?

A. It would be the same, yes.

. . .

(436)

Q. Now, would you state what you consider to be the patented concept of the Belgian Patent?

A. Yes sir. This is expressed in Claim 1 of the Belgian Patent.

Q. What is that?

A. Basic concept is for the manufacture of a shell, process for the manufacture of a chair, in which one takes two plastic shells and pushed one over the other, they are fastened one to the other, and the unit so obtained is fastened to a foot.

Q. And is that what is patented in the Belgian Patent?

(437)

A. That's the main object patented.

Q. Are there any embodiments or features of that patented concept also claimed in the Belgian Patent?

A. Yes, sir.

Q. Would you enumerate those?

A. These are the embodiments, subjects of Claims 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19 and 21.

Q. What about Claim 20?

A. Claim 20 is an omnibus claim which simply states "Process as described." Such a claim is meaningless in the Belgian practice because it is an attempt to extend the scope to anything which is disclosed in the specification.

Q. Is that permitted under Belgian law?

A. That is not permitted, sir. It does not show any specific intent. It doesn't disclose any specific intention. It's just —

Q. What about Claim 22?

A. Claim 22 is in a similar manner is "Seat, as described or as presented in the drawings." It's an attempt to cover anything which is, not only anything which is described, but also anything which is presented in the drawings, without any specific intent.

(438)

Q. Does the Belgian law permit one to do that in order to, so that the whole thing is patented?

A. No, sir. We have a court decision which indicates that you may not do that.

Q. Does the description of the Belgian Patent include any disclosure of the intention of the inventor to patent a chair with an inner load bearing shell and an outer non-load bearing shell which is freed from structural considerations?

A. No, sir, I don't find such.

Q. Does the description include any disclosure in the description of the Belgian Patent, include any disclosure of the intention of the inventor to patent a chair with an inner load bearing shell and an outer shell that is intended to be dictated by decorative or aesthetic considerations only?

A. No, sir.

Q. Does the description in the Belgian Patent include any disclosures of the intention of the inventor to patent a chair in which the task of engineering a load bearing structural inner shell can be given to a structural engineer, while the task of giving the chair a decorative exterior appearance can be given to the designer?

A. There's nothing like that in the Belgian Patent.

(439)

Q. Mr. Grisar, in your opinion, is a chair having an inner load bearing structural shell with seat and back, that's one element, means for covering the front face of the inner shell, and another, and a non-load bearing trim shell having a decorative exterior appearance and covering the rear surfaces of the inside shell, is that patented by the Belgian Patent?

A. No, sir.

Q. On what do you base your opinion?

A. I base it because there is no disclosure and no claim conception

in the Belgian Patent.

Q. Mr. Grisar, what does the Belgian law require for drawings?

A. Section 17 of the statutory law requires that the applicant is bound to file a clear and complete description of his invention and the exact drawing and metric scale of the object in the invention.

Q. Now, Mr. Grisar, did you ever see the assembly of a Steelease 451 chair?

A. Yes, sir.

Q. Would you describe that assembly so far as you can remember?

A. So far as I recollect, the chair is assembled by taking a structural shell, by putting it upside down, by taking an ornamental shell, by placing this (440) ornamental shell on the structural shell, and by stapling the back, the bottom of the two shells, and put some screws around the periphery of the shells.

Q. Now, in that assembly, is the outer shell pushed on to the inner shell?

A. No, sir, it's simply placed.

Q. Where did you see this assembly?

A. In Grand Rapids in the Steelease plant.

Q. Was this assembly — did you actually see a production line?

A. Yes, sir.

Q. Or was it just done for you purposely?

A. No, it was a production line.

Q. Mr. Grisar, how was the outer shell in that assembly at Steelease, how was the outer shell placed on the inner shell?

A. So far as I remember, it was just placed on it.

Q. By hand?

A. Yes. There was no device, it was placed by hand.

Q. Was a press used?

A. No, there was no press used.

• • •

(441)

CROSS EXAMINATION

By Mr. Tucker:

• • •

(444)

Q. And you also have no requirement for what we call division, like if an application were to be filed that had several different inventions disclosed in it, under Belgian patent law, I take it that patent could have one or more claims to each of the separate inventions all in the same patent?

A. I would say here that theoretically the (445) patent office has the right to impose the division of an application, but this would imply

265a

Testimony of George E. Pickering

(298)

GEORGE E. PICKERING, being first duly sworn, was examined and testified as follows:

DIRECT EXAMINATION

By Mr. Mitchell:

. . .

(301)

Q. When you look at a patent such as you did in this research, what do you look for?

A. We usually look for the basic concept of the patent, what does it teach, what does it, how does it compare with other pieces of information, how does it compare with actual situations, physical situations in existence.

(302)

Q. Also in your previous study, I believe you referred to a, previous testimony, you referred to a study which you did relative to plastics in the furniture industry, is that correct?

A. Yes, sir.

Q. And that result of that study is reflected in Plaintiff's Exhibit 244A, 244B and 244C, would that be correct?

A. Those are the copies of the study.

Q. When did you conduct that study of plastics in the furniture industry?

A. Mostly 1968, '69, possibly a little of it started in 1967.

Q. Briefly, what was involved in that study?

A. Well, it was a study of the state of the art, commercial as well as some references to patent art, basically in the United States but also incorporating certain situations that were of foreign origin but had a United States impact. It was not a study of foreign situations for foreigners. It covered the types of materials that were being used, for instance, the plastics products that were being made, processes that were making them and did a great deal of economic studies, several products were calculated out, costed out.

(303)

Q. Approximately how many different kinds of chairs did you see during that study?

A. I saw hundreds of chairs during those periods and some since, of course, at clients' plants and at field calls, and went to a lot of shows, both in the United States and abroad, both plastics shows and furniture shows.

Q. You attended plastics and furniture shows?

266a

Testimony of George E. Pickering

A. Yes, sir.

Q. In Europe?

A. Both here and in Europe, yes.

Q. Do you have before you the Belgian Patent No. 724771?

A. I do have the Belgian Patent, yes.

Q. Have you read that Belgian Patent?

A. Yes, sir.

Q. I would like you to place yourself in the time frame that you did this plastics and furniture industry study, 1968 and '69 and tell us what you would have told your clients at that time about the content and teaching of the Belgian Patent 724771, in the plastics in furniture industry study, had you considered it to be sufficiently significant to mention?

A. I would have characterized it as a process (304) for making a shell chair having integral arms and consisting of two separate chair shells, one which is pushed over the other to form a single unitized load bearing chair shell, which is then fastened to a foot and also providing for a flexible seat area, cushioning and upholstering.

Q. How would you compare that Belgian Patent disclosure to other patents that you have seen in terms of thoroughness?

A. It leaves a great deal to be desired. It does not compare, in my opinion, with the type of disclosures that one is used to seeing in American patents and patents from several other countries. Although I have to admit that some of the older patents from other countries have been obscure as well. It's not as good a patent as I would like to see made.

Q. What is the main thrust that the author seems to you to be trying to get across, the author of the Belgian Patent?

A. Of the Belgian Patent, the use of two separate shells combined in a unitary fashion to create a unitized chair shell.

Q. What does the Belgian Patent teach about the load bearing characteristics of both shells 1 and (305) 2?

A. It does not teach the distinction between the load bearing conditions of the two, at least not in any words as to which one bears any specific amount or in any direction. The general teaching of it, however, implied from the total patent, is a sharing of load conditions between the two shells, particularly by virtue of being unitized as a single chair shell.

Q. Now, what about the seat structures of the Belgian chair itself? Briefly, how is that provided?

A. It seems to be provided by putting what they call a rod of flexible material, which would probably be something like polyethylene, across the surface of the element 6, and from attaching that to those rods on each side to element 6 and then stretching elastic webs across the surface.

Q. Well, to what extent then do the shells 1 and 2 themselves then define the seat area itself?

A. Well, the Hawley chair project, Your Honor, started with the corporation Hawley Products coming to us and asking us to study the feasibility of cellulose fiber. After looking at this, we decided the material wouldn't allow us to develop inexpensive, low cost furniture that would have quality to meet very specific consumer needs.

Q. Mr. Foote, let me interrupt you just a moment. What is cellulose fiber?

A. It's a paper product, sir. It's the smallest part that you can break the wood pulp paper into it, and the fibers themselves are put in bundles and locked together in natural fiber locking where the mechanical bundle allows this to become a structural member.

Q. Have those fibers or that material previously been used for any other product?

A. Yes, sir, it's the same material that you see in cardboard and craft paper in speaker cones and other such matter.

Q. I see. And as I understand what you said then, your project was to see if you could design a (32) suitable inexpensive chair out of this cellulose fiber stuff?

A. That is correct.

Q. O.K., go ahead.

A. And in the development of the chair, we make the two-shell structure that is shown in the Hawley Patent and also in the Bearman Patent, I don't know if that's before the Court or not.

Q. That has been before the Court.

A. The base of this was to develop an outer shell that would give a design appearance, in this case the design was such as to not be too modern but more in what was characterized as the bean style, and then to use the inner shell to develop the integralogical curve in the back area in conference with the rubber webbing in the back and seat along with the cushion.

Q. Why did you use two shells?

A. The main reason for using two shells was to give the thickness desired to the chair so that it had a bulk rather than a very thin form in order to conform with the needs and wants in the consumer marketing studies that we had with regard to what a specific buyer would use. At this time, the modern one-piece shell was not sufficient to be used in this (33) area so we went to a two-shell structure. But also though from the two-shell structure, it gives us the strength, if you will notice the box-like corners around the periphery in coincidence with the strength of the steel bezel gave us the performance that was required to have a strong enough chair shell to hold up.

Q. Well, did you find it necessary to use two shells?

A. Yes, sir —

Q. In the Hawley construction?

A. Yes, sir, it was necessary in this case, in this particular design, to use two shells, mainly because the type of design that we were involved in, the style that we wanted to achieve.

Q. Did the strength of the material used have anything to do with the determination to use two shells?

A. The strength of the material did, in terms of the configuration and the thickness that we used on those particular shells, yes.

(40)

Q. Does the Belgian Patent tell us what the shells are made of?

A. Yes, sir, it does. They are molded plastic shells.

Q. Molded plastic shells?

A. Yes, sir. It does not state the specific type of plastic used, but it does state that they are plastic shells.

Q. Please tell the Court whether, in your opinion as a chair designer, the two shells of the Belgian Patent have integral seat and back portions.

A. Yes, sir, the two chair shells, both 1 and 2, have integral seat and back. The inner shell being No. 1 is the load-bearing shell designed to support the body in the seated position and the chair shell 2 in the Figure 2 of the patent, has the trim shell which gives the outer design and also bulk or thickness to a specific style and purpose.

Q. Now you mentioned just a moment ago the use of some padding or covering over the shells?

A. Yes, sir, I did. This is in the area of upholstery, which is a foam plastic.

MR. TUCKER: Your Honor, would you permit the witness to leave the stand and go to this drawing? I want to make sure that this point is demonstrated.

(45)

Q. And each shell is riveted to the base 6?

A. Yes, sir, the patent teaches that.

MR. HENEVELD: Objection to that, leading.

THE COURT: Overruled.

Q. (By Mr. Tucker): All right, sir, you may resume the witness stand.

Mr. Foote, please tell the Court in your opinion as a furniture designer and one who has dealt with furniture for many years, what is the function of the inner shell 1 in the Belgian Patent?

A. The inner shell, as the patent teaches, that the inner shell is the load-bearing shell and the shell that defines the seated area for which the, as outlined by Figure 1, which also shows the general appearance design of the chair. And Figure 2, which shows the section through, which shows the shell as it comes down and indeed forms not only the back and the seated area, but also the arms and the intermost part of the chair shell, or the chair.

Q. Tell the Court, please, what the function is of shell 2 in the Belgian Patent.

least one of these two recesses is closed at least partly by a base element that is fastened to at least one of the shells.

"Process as in the above claim, characterized in that the base element is first fixed to one shell, whereafter the two shells are pushed over each other and the second shell is fixed to the base element.

"Process as in one of the above claims, characterized in that the shells are made in such a way that when they are pushed over each other and the (108) recesses come opposite each other, the outermost edge of the shells at least partly almost coincide.

"Process as in one of the claims 12 to 15, characterized in that in the pushing together of the two shells the edge of the covering is clamped between the said two shells.

"Process as in claim 14, characterized in that the covering is glued to the shell and the two shells are pushed into each other by the intervention of a press whereof the two jaws conform to the configuration of the two shells."

Q. (By Mr. Mitchell): Why would it be necessary to push these two shells together with the jaws of a press?

A. I would assume that in referring to the two jaws, they are referring to jigs that will allow for the alignment of the two shells in the assembly so that when you assemble the two shells and prepare them for the glue joints that are necessary to align so that you don't have glue askew when the two fabrics come together, for one thing. And then also to align the rivet holes in the base element 6 with the two shells. That would be my assumption.

Q. Why would it be necessary to push one shell over the other?

(109)

A. Well, it's a matter one has to be inserted into the other in order to make contact with the glue and again to make contact in such a way that if you would use jigs, and that's what I would look at these two from my past experience in putting shells together, that this would indeed align the shells so that the glue, as it has already been applied to the fabric on shell 1 and the fabric on shell 2, would maintain their alignment so that when you push them together, that the glue then indeed comes in contact and you're pushing them together in order to assure that the glue becomes a firm bond on the, from fabric to fabric. Because of the coarseness of the fabric, it would be necessary to have that kind of a smashing of the fabric in order to secure the bond and then to also align the rivet holes from shell 1 to the section of the shell, as they do with shell 2, to come in contact with base 6.

Q. What you're saying then is that it's necessary to push the shells together to punch down this fabric and push the glue into it?

A. Yes, sir. That would be my interpretation from this and from past experience, that it's necessary, especially when you have fabric with a foam backing that is attached to another member, that it's necessary (110) to compress all of the members to make sure the contact is secure between two fabric members.

Q. And would you use the jaws of a press?

A. Well, the jaws of a press, in this case, would be what I would call jibs, but a press would be what would be required because you would have a hydraulic or mechanical kind of device that would give you leverage to push these two together to make sure that the bonds are secure.

Q. If you were going to adhere something by glue, would it be — would it be common knowledge to one skilled in the art that you would want to push them together?

A. Yes, sir. It would be necessary to compress them, and I think it would be something that would be common knowledge to one skilled in the art.

Q. Would you say that the Belgian emphasizes this pushing one shell over the other quite a bit in this description and in the claims?

A. I really don't, I don't feel that it's over-emphasized in that case. I think it's emphasized as to the method by which the different shells are connected, and the assembly technique.

Q. Well, it's referred to some 15 times roughly in the specification. It's referred to in the third (111) sentence of the description right after he talks about the invention is intended to develop a simple and economical for manufacture, etc., and says for this purpose, the two shells are produced and one is pushed at least partly over the other, and, incidentally, makes no reference to adhesive in that sentence. Then it's referred to again in Claim 1, the first lead-off claim. Wouldn't you say that there is a fair bit of emphasis on this pushing?

A. Well, the reason why I responded the way that I did, if I may back up, since we've already referred to the Hawley shell. The matter of putting the two shells over each other is also similar in nature at least, we use jigs and presses in order to secure the glue and allow the glue to dry, and you mentioned just now the economy of this. And the economy is based in the Hawley process is that is why the materials, the specific materials were used and the specific connections were used in order to have a very low income chair. In fact, the chair in the Hawley Patent sold originally for \$39.95, and we had to raise the price up because people wouldn't buy it thinking that we had an inferior chair. We had to raise it up to \$69.95, where it did sell at least.

• • •

(139)

Q. Have you ever seen a Belgian patent before?

A. No, sir, I had never seen a Belgian patent before.

Q. Do you have any idea how the Belgian determined what is patented in the Belgian Patent?

A. No, sir, not being a patent expert and being a designer, I have no idea.

Q. Do you speak French?

A. No, sir.

Q. Flemish?

A. No, sir.

Q. So you — do you base your conclusion that the inner shell 1 of the Belgian Patent is a load bearing structural shell and outer shell 2 is a decorative non-load bearing shell — do you base that conclusion on the assumption that this would not be an ill-designed chair that the Belgian would want to avoid any movement between the two shells at the perimeter and he would want to be sure that no rivets broke between shell 2 and base 6?

A. Well, I will have to answer this way. I base my conclusions on the teachings of the patent, both in the written section and in the illustrations. And I feel that it's obvious to a person that would be skilled in the art of furniture design.

(140)

Q. Well, would you say that I — my question was in error, that I did not characterize your conclusion properly?

A. Well, I feel that — I don't know. I gave you my answer.

Q. I mean I got the impression from your testimony that there were two areas which led you to this conclusion, one being that the Belgian would want to avoid any motion between these two shells at the perimeter, and the other being that the Belgian would want to avoid problems of these rivets tearing out or breaking between shell 2 and base 6.

A. Yes, sir.

Q. Is that correct?

A. Yes, sir.

Q. Those concerns do form the basis for your conclusion?

A. No, the conclusion, no, the conclusion is based on what I said originally, that from the teachings of the patent both from the written word and the illustrations, that's why I was making my observations and comments to you with regard to how the pieces came together, what would happen with the rivets as they are stated within the assembly technique here —

Q. But there is no written statement in the (141) Belgian Patent that inner shell 1 is the structural load bearing member of the shell and capable of carrying the load of the shell without shell 2? No written statement?

A. There are no written words specifically that says this is the load bearing shell, but I make my observations based on the reading of the Belgian Patent and the drawings.

Q. And there's no written statement that the Belgian intends, or express written statement, that the Belgian intends to claim as part of his invention that the inner shell 1 is capable of carrying the load without the aid of the trim shell 2?

A. There is no specific words that says the inner shell 1 is the load bearing shell, other than the implications of the drawings and illustrations that this is the case.

Q. And there is no specific statement that that is the Belgian's

Jan. 10, 1961

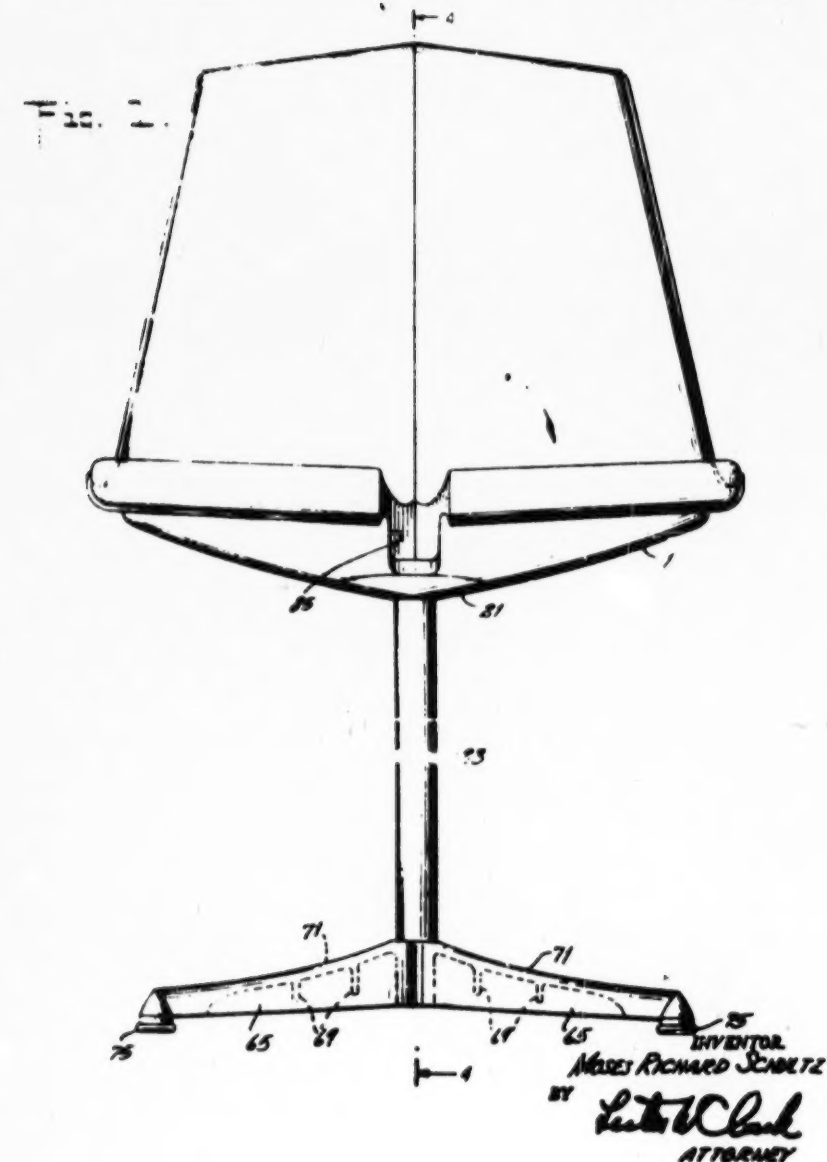
M. R. SCHULTZ

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STACKING CHAIR

Filed Jan. 4, 1960

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Jan. 10, 1961

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Filed Jan. 4, 1960

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Fig. 2.

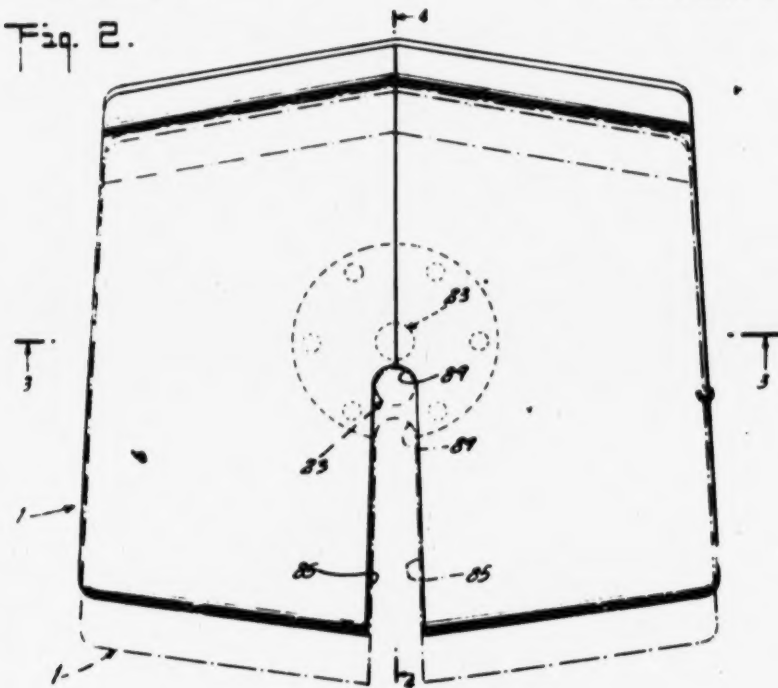
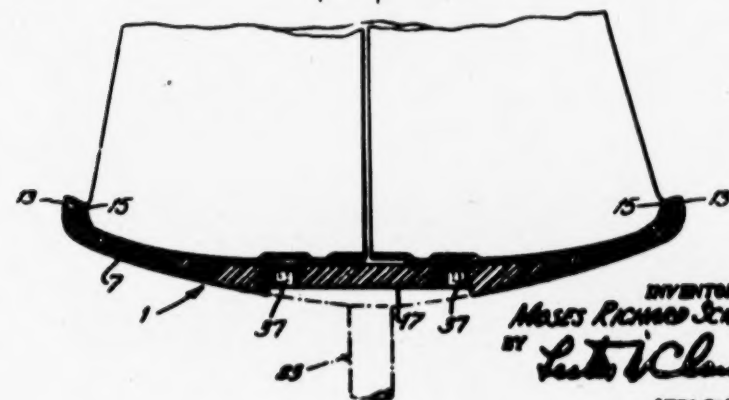


Fig. 3.



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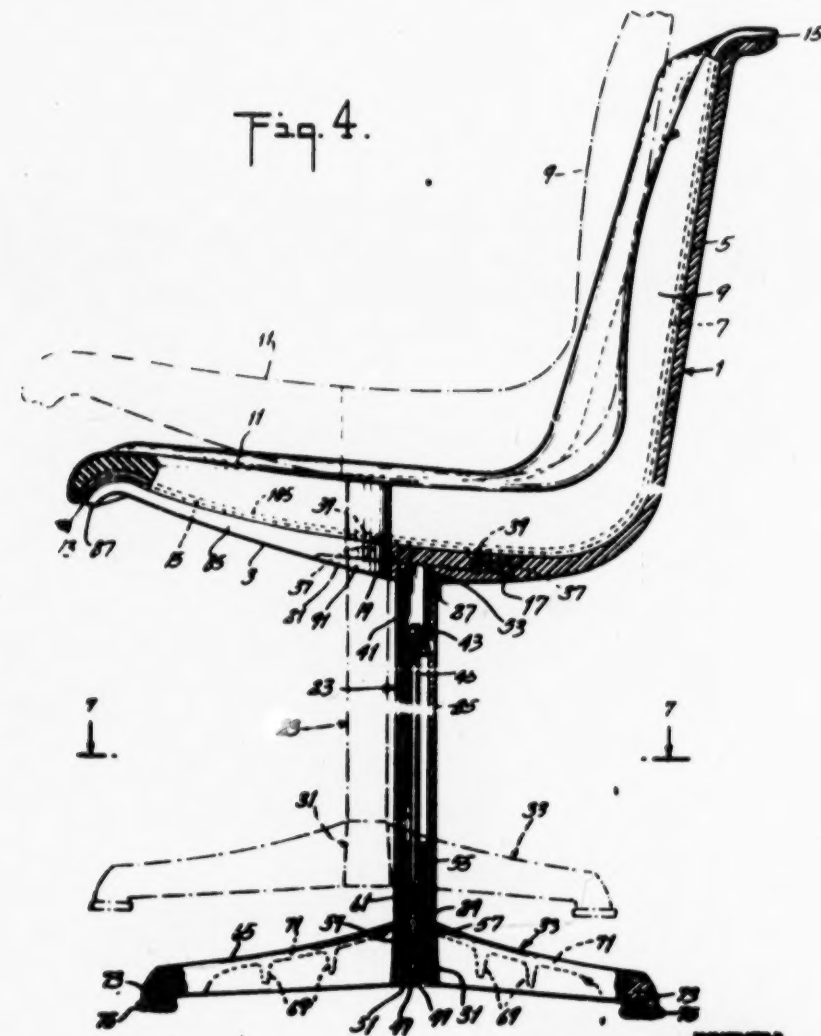
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Fig. 4.



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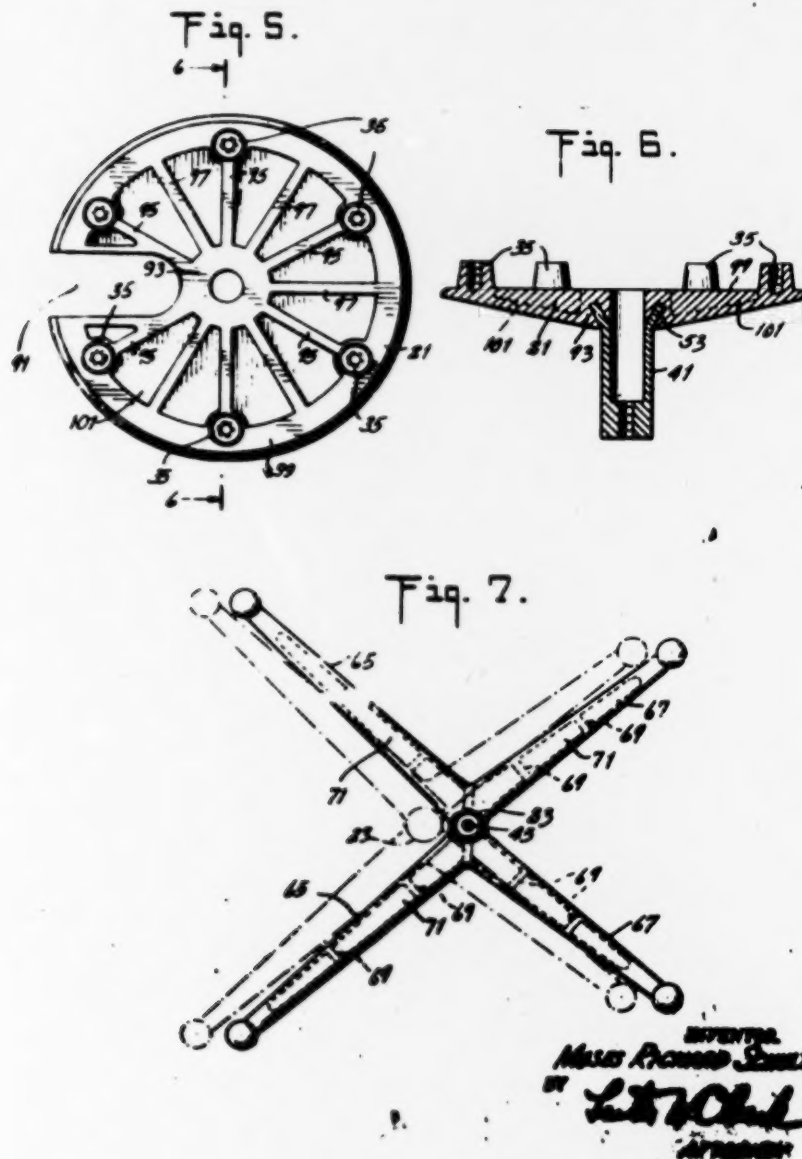
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STACKING CHAIR

Filed Jan. 4, 1960

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United States Patent Office

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STACKING CHAIR

Moses R. Schultz, Barto, Pa., assignor, by mesne assignments, to Knott Associates, Inc., New York, N.Y., a corporation of New York

Filed Jan. 4, 1960, Ser. No. 364

15 Claims. (Cl. 155-2)

This invention relates to chairs and more especially to chairs capable of being disposed in compact relation to each other to form a stack of chairs. The invention particularly relates to chairs of the type in which the seat is mounted at the upper end of a pedestal or column supported by a base.

In auditoriums, assembly halls and the like it is frequently necessary or desirable to provide seating for a large number of people and on occasion to remove the seats or chairs so as to provide a clear floor space. The problem arises of disposing the seats or chairs removed from the floor in a storage or other temporary location in a compact arrangement requiring very much less floor space than that of the auditorium or assembly hall. To this end in many cases chairs and the like have been made collapsible or "folding" which are constructed so as to bring the seat into generally parallel relation to the back of the chair so that the collapsed chair may be placed in a vertical position and in close relation to other chairs, thus requiring little floor space for temporary storage.

Such chairs, however, in many cases are not of such design as to be comfortable or to be artistic. It is usually necessary for comfort that both the back of the chair and the seat thereof shall have a contour of the surface to conform to the body. This may be the case even though the chair is provided with cushions of substantial depth for the seat and the back. Moreover, contours other than rectilinear lines in many cases may provide a more artistic chair in consideration of the contour of the seat, the back, the height of the pedestal and the diameter of the base necessary to meet the conditions of comfort and of stability of the chair. Chairs having such contours ordinarily cannot be stacked readily in close relation one with respect to the other.

Moreover, in chairs of the pedestal type in which the seat is rigidly secured to the upper end of the pedestal, this pedestal being rigidly secured to a base of substantial diameter for stability, the seat and the column or the base and the column or both may interfere with bringing two chairs in close relation to each other so as to form a compact stack.

It is an object of the invention to provide a chair of the pedestal type which may be brought into closely stacked relation to other like chairs.

It is another object of the invention to provide a chair of the pedestal type which is of artistic design while being capable of being stacked with other similar chairs.

It is a further object of the invention to provide a chair of the pedestal type which will be strong and stable while providing for nesting of the seat and back portions of the chair without interference by the pedestal or column.

It is a still further object of the invention to provide a chair of this type in which the base designed for stability also does not interfere with the nesting of the seat and back portions in the stack.

It is an additional object of the invention to provide

2

a chair of simple and strong mechanical construction which will have the above mentioned characteristics.

The chair of the invention utilizes a substantially rigid seat securely mounted upon the upper end of a vertically disposed column or pedestal. This pedestal is securely supported by a base which may rest upon the floor. The base is of such rigid form and construction that it supports the column and the seat mounted thereon so as to afford the requisite stability of the chair, that is, the prevention of tipping forwardly or rearwardly or sidewise, by virtue of its substantial diametral dimensions. The column or pedestal, which may be made of any material suitable to provide a rigid column and preferably is made of metal, is of restricted diameter to serve the purposes of the invention while being of sufficient diameter, having regard to the vertical length of the column, to provide resistance to bending or buckling as well as to secure good design appearance.

While such constructive and design features heretofore have been provided in various ways in pedestal type chairs, the problem of nesting or stacking a plurality of such chairs has not been met satisfactorily. To accomplish this purpose in accordance with the invention the seat of the chair is provided with a notch open at the forward edge of the seat and extending rearwardly from this edge to an inner end of the notch adjacent the column of the chair. The base of the chair also is provided with a notch or open space disposed at the rearward side of the column and extending from the rearward edge or part of the base forwardly to a forward end of the space adjacent the column. Having regard to the requisite features of the column as above mentioned, the column is made of such thickness or dimension transverse to the forward and rearward direction of the chair, that is, transverse to the forward and rearward center line thereof, that the column of a chair which is to be nested with a chair standing on the floor may enter the seat notch of the standing chair, the under side of the seat and the back of the chair, if a back is provided, being disposed above the seat and the back of the standing chair. The column of the chair which is being nested with the standing chair may be moved rearwardly in the notch of the seat of the standing chair until the column reaches the inner or rearward end of this notch.

As this movement occurs the open space or notch provided in the base, being disposed at the rearward side of the column of the chair being nested with the standing chair, permits the movement of the base of the chair being nested rearwardly with respect to the column of the standing chair, this latter column being received into the space of the chair being nested. As both the inner rearward end of the notch of the seat and the inner forward end of the notch or space of the base are disposed adjacent the column, the columns of the two chairs may be brought into closely adjacent relation to each other and the seats and backs may be disposed in nested relation to each other. The forward edge of the seat of the chair being nested in the standing chair becomes disposed only a short distance forwardly of the forward edge of the standing chair. Similarly the base of the chair being nested is disposed only a short distance forwardly of the base of the standing chair. In some cases, especially where deep cushions are provided at the back, the chair may not nest in such close relation that the cushions of two adjacent chairs are close together. By providing the notch in the seat and the open space or notch in the base, however, the chairs are brought into the desired relation with the seat and back portions in closely nested relation. The chairs may be brought into such relation by moving the chairs toward each other, or by moving the chairs apart, or by moving the chairs in any desired direction, as desired, to bring the chairs into the desired relation. The chairs may be moved in any desired direction, as desired, to bring the chairs into the desired relation.

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ber of chairs may be stacked together in the relation described without risk of the stack tilting from the stable position in which the center of gravity of the stack falls within the base of the lowermost chair.

To stack the chairs a chair may be lifted somewhat from the floor and its column inserted in and moved to the inner end of the notch of the seat of a chair standing on the floor. Then a third chair may be lifted and its column inserted in the seat notch of the upper chair, these steps being repeated until a stack is built up. In order to avoid the condition that the base of the lifted chair strikes the base of the standing chair, the vertical dimension of the base is made somewhat less than the vertical dimension of the seat of the chair. Moreover by providing this dimensional relation, the bases of each of the chairs will be suspended by their columns since each seat structure will rest upon the seat of the chair next below. It will be understood that some particular maximum dimension as, for example, the hub of the base to which the column is secured with respect to the vertical dimension at some particular point on the seat or back or both, may determine the clearance between the bases of two vertically adjacent chairs in the stack. Ordinarily the depth of the cushions of the seat, in some cases of the seat and of the back, are great enough with respect to the vertical dimensions of the base requisite for strength and stability so that the desired clearance between the bases is secured for convenient stacking.

The invention includes certain details of mechanical construction which will be described in connection with the drawings. These details of construction, however, are such as to provide for the desired full length of the notch in the seat in the forward and rearward direction and of the open space or notch in the base, as will be understood in the following description of the drawings in which

Fig. 1 is a front view of the chair in elevation;

Fig. 2 is a plan view of the chair;

Fig. 3 is a vertical section taken on line 3-3 of Fig. 2;

Fig. 4 is a vertical section taken on line 4-4 of Figs. 1 and 2.

Fig. 5 is a top view of a plate supporting the seat at the top of the pedestal;

Fig. 6 is a section on line 6-6 of Fig. 5;

Fig. 7 is a section on line 7-7 of Fig. 4.

In the embodiment shown in Figs. 1 to 4, inclusive, the chair of the invention is provided with a seat and back structure or outer shell 1 which is of molded plastic, for example, of a polyester resin reinforced with a fiber such as sisal, glass or other suitable fibrous material. The shell 1 is molded as a whole to dimensions to provide the requisite strength and rigidity to support the weight of a person sitting in the chair and to resist the bending or torsional strains which are brought upon the seat and back of the chair in its ordinary use. By means to be described this outer shell 1 is secured to a pedestal or column at its upper end. The contours of the shell are such that the requirements of design and of comfort may be met, the seat portion of the shell 1 being of a concave form both in its forward and rearward dimension and in its transverse dimension to provide greater comfort than a flat surface. Similarly, the back of the chair may be made concave so as to conform to the back of a seated person.

As shown in Fig. 4, at the upper side of the seat portion 3 of the outer shell 1 and continuing over the forward face of the back portion 8 of the shell an inner shell 7 is disposed which may be made of paper pulp impregnated with asphalt. This inner shell may be held by adhesive of suitable type to the upper surface of the seat and the forward face of the back portion of the shell 1 and may extend, as shown in Figs. 3 and 4, over the forward edge portion of the seat and the upper edge portion of the back and over the side edge portions of the seat. These edge portions of the two shells are spaced

from each other to provide a peripheral recess or groove 13 into which may be received the edge portions of the upholstery fabric 11 which covers the exposed face of the cushion 9 which is secured to the upper surface of the inner shell 7 by a suitable adhesive. The recess 13 is provided by forming a shoulder or rabbet 18 along all of the edge portions of the inner shell 7. The edge portions of the upholstery fabric may be brought down over edge portions of the cushion 9 and lapped upon the shoulder 18 of the inner shell 7 and tacked to the surface of this shoulder. Preferably the cushion 9 is made of foam rubber and the adhesive used is one which is capable of bonding the foam rubber to the asphalt impregnated inner shell 7. The assembly of the inner shell 7, the cushion 9 and the upholstery fabric 11 covering the cushion and tacked to the shoulder of the inner shell is first made and this assembly then is adhesively secured to the outer shell 1 after this outer shell has been mounted on the upper end of the pedestal by means about to be described. The contours of the cushion 9 and the thickness thereof at different portions of the area thereof may be such as will provide comfort as well as artistic design. The fabric 11 may be any conventional fabric suitable as upholstery or covering material for the purpose.

The outer shell 1 at the bottom surface thereof in the embodiment being described is provided with a shallow recess 17 having a flat surface 19 for engagement with a corresponding flat upper surface of a plate 21 mounted on the upper end of the pedestal or column 23. The column 23 in this embodiment is provided by a tube 25 extending between the lower face 27 of the plate 21 and the upper end 29 of the hub 31 of the base 33. Means further to be described are provided for drawing the lower face 27 of the plate 21 into engagement with the upper end of the tube 25 and the upper surface of the hub 31 into engagement with the lower end of the tube 25 securely to hold the plate and the hub in spaced relation and rigidly connected to the tube 25 as a strut or column.

The plate 21 as shown in Figs. 4, 5 and 6 is provided with a plurality of bosses 35 extending upwardly from the upper surface of the plate. These bosses are disposed about the axis of the tubular column 23 and in symmetrical relation to the forward and rearward center line of the chair, that is, the horizontal center line in Fig. 5. The outer shell 1, as shown in Fig. 4, is provided with a plurality of recesses 37 extending upwardly from the flat surface 19 of the shallow recess 17 of the shell 1 for receiving the respective bosses 35. The plate 21 may be made of such material as to provide a rigid structure. For example, the plate may be cast of aluminum or an aluminum alloy so as to provide, without the necessity of machining, planar surfaces at the upper surface of the plate and also to provide smooth bottom and edge surfaces for this plate merging tangentially with the smooth bottom surface of the shell 1. In such a plate cast of aluminum or aluminum alloy the bosses may be sharply formed and closely to dimension and, as the shell 1 is preferably molded of a plastic, the recesses also may be sharply formed to dimension, so that the bosses 35 may fit snugly into the recesses 37, thereby to secure a tight connection between the shell 1 and the plate 21 to prevent movement of these two members with respect to each other either under the stress of tilting in any direction or of torsion about the axis of the column of the chair. Securely to hold the bosses 35 in place in the recesses 37 and the upper face of the plate 21 against the surface 29 of the hub 31, top bolts 39 engage through the bosses 35, suitable washers being disposed between the heads of the top bolts 39 for engagement with the upper surface of the upper portion of the shell 1.

For securely holding the plate 21 to the tube 25 at the upper end thereof, an upper nut 41 is provided in the outer diameter of which is a hole 43, as shown in the lower diagram of the tube 25. The upper end

shaft 41 may be made of a metal and may be machined to provide an inner space within which a nut 43 may be disposed. The lower end of the stub shaft 41 is provided with a threaded hole through which a bolt or rod 45 extends, the upper end of which is threaded to engage the threads of the stub shaft and to receive the nut 43. The lower end of the bolt 45 extends through an opening in the hub 31 of the base 33, and is provided with a hexagonal head 47. A washer 49 is disposed under the head 47 in a recess 51 formed in the bottom end of the hub 31 of the base. Upon tightening the nut 43 on the bolt 45, the hub 31 is drawn against the bottom end of the tube 25 and simultaneously the plate 21 is drawn against the upper end of the tube 25.

To hold the upper stub shaft 41 securely to the plate 21 the upper end of the stub shaft 41 is machined or otherwise formed with a flared portion 53 which may be embedded in the metal of the plate 21 as it is cast. The pull of the rod 45, therefore, is resisted by virtue of the secure hold of the flared portion 53 of the stub shaft 41 in the plate 21. The stub shaft 41 thus is secured rigidly to the plate 21 and is snugly fitted to the tubular column 25, so that a rigid connection is provided at the upper end of the column for the mounting of the plate and support of the seat thereon.

At the lower end of the tube 25 a lower stub shaft 55, which also may be of metal, is snugly fitted to the inner surface of the tube 25. The stub shaft 55 in the embodiment shown is provided at its lower portion with a plurality of annular grooves 57 separated by annular ridges 59 extending circumferentially about the stub shaft. The base 33 may be made of a suitable material, such as aluminum or aluminum alloy, and the lower end of the stub shaft 55 may be disposed in the mold so that the metal in the hub 31 is cast about the grooves and ridges so as rigidly to hold the stub shaft 55 in the hub 31 with the upper portion thereof extending upwardly into the tube 25. The stub shaft 51 is provided with a longitudinal hole 61 extending therethrough so that the rod 45 may extend therethrough and through the part of the hub 31 adjacent the washer 49 to provide the function of a draw rod as above described.

The base 33, as shown in Figs. 4 and 7 in the embodiment being described, provides four generally radially extending arms. Two of these arms 63 extend forwardly of the transverse center line of the column and are disposed in symmetrical relation to the forward and rearward center line of the chair. The other two arms 67 extend rearwardly of the transverse center line of the column and also are disposed in symmetrical relation to the forward and rearward center line of the chair. The arms 65 and 67 extend at angles to this forward and rearward center line. The arms 65 are of such radial length and extend at such an angle relative to the radial length and angle of the arms 67 that the forwardly disposed ends of the arms 65 are at a somewhat greater distance forwardly of the transverse center line of the column than are the rearwardly disposed ends of the arms 67 rearwardly of this transverse center line. In this embodiment the angle between arms 65 is somewhat greater than the angle between arms 67. It will be noted further from Fig. 7 that the outer lines of the arms 65 and 67 do not proceed precisely radially from the axis of the column but from points which respectively are offset transversely of the forward and rearward center line of the chair. The advantages of this arrangement will appear from further description but it may be noted here that, viewed in section through the axis of the column taken transversely of the forward and rearward center line of the chair, a substantial body of material is provided, so that the arms are rigidly connected together and to the hub 31 without disposing a large amount of the supporting material forwardly and rearwardly of the column 25.

As shown in dotted lines in Figs. 4 and 7 the same

65, 67 of the base 33 may be formed through most of their length with an inverted channel shape, having flanges extending downwardly from web portions 71 disposed at the upper side of the respective arms. These web portions as well as the flanges are cast in one piece with the hub 31 to provide a rigid central structure rigidly holding the four arms extending at angles to each other and at angles to the forward and rearward center line of the chair. Reinforcing ribs 69 extend transversely of the arms 65, 67. A stable base rigidly supporting the column 23 and the seat and its plate 21 mounted thereon thus is secured. Suitable casters or the equivalent of conventional type, which may be in the form of resilient studs or glides 73 provided with metal covers 75 providing smooth lower surfaces, are disposed in sockets provided in bosses formed at the outer ends of the respective arms 65, 67.

As shown in Figs. 1, 2 and 4, a notch 85 is formed in the seat portion of the shell 1 of the chair. This notch extends from the forward edge 87 of the shell rearwardly to an inner end 89 which is disposed adjacent the column 23. The plate 21 also is provided with a notch 91 which has a contour registering substantially with the contour of the inner portion of the notch 85 of the shell 1. As shown in Fig. 5 the notch 91 of the plate 21 extends at its inner end substantially to the periphery of the hub 93 of the plate 21 from which a plurality of ribs 95, 97 extend radially. Alternate ribs 95 are disposed on the radial center lines of the bosses 35 of the plate 21. Other ribs 97 are disposed on radial lines between the ribs 95. These ribs 95, 97 as shown in Fig. 6 extend from the upper surface 99 of the plate 21 to a web portion 101 which is of conical shape extending outwardly from the lower end of the hub 93. The hub 93 provides a portion of the plate 21 in which the upper flared end 53 of the upper stub shaft 41 is embedded as above described. By providing a plate 21 of this form the requisite rigidity thereof for mounting on the column 23 and for support of the shell 1 may be secured, even though the provision of the notch 91 requires the removal of a certain amount of material of the plate.

As shown in Fig. 5 the width of the notch is substantial with respect to the diameter of the plate. This is necessary in order that tubes 25 of the columns of the chairs being stacked above a particular plate 21 may enter the notch 91 from the forward edge of the plate. The tube 25 of the next chair above must move to the inner end of this notch 91, i.e., the right hand end as it appears in Fig. 5.

The number of chairs which may be placed in a single stack depends upon the relation between the seat thickness and the length of the column between seat and base. It is preferred to construct the chairs so that six may be placed in one stack. This limitation of the number of chairs in one stack provides a further improvement over prior stacking chairs where the number in a stack is not limited. With such prior art chairs, it sometimes happens that so many chairs are stacked together that the lower chairs are overloaded, and are thereby bent or broken.

It also will be noted in Figs. 2 and 5 that the notches 85, 91 are tapered in the direction from the forward edge 87 of the shell to the rearward end portions of the coincident notches, the radius of the inner end of the notch 85 being the same as that of the inner end of the notch 91. The inner shell 7, when made in one piece for the outer shell 1, also is provided with a notch 105 extending from the forward edge of this shell to an inner end which is offset from the inner end 89 of the notch 85 of the outer shell. The notch 105 also may have a contour or outline substantially coinciding with the tapering outline and shape of the notch 85 of the shell 1. Preferably, however, the shape of the notch of the inner shell 7 is somewhat wider along its outer end in order to provide for the alignment of the inner

2,967,565

7

ing fabric which, as above described, is brought down over the edge of the cushion and over the edge of the inner shell to be secured to the shoulder 15 formed along the edges of the inner shell. Where the inner shell 7 is formed in one piece for engagement with the upper surface of the shell 1, the shoulder may be formed also along the edge of the slot for this purpose. Similarly, where the cushion with its fabric cover is formed in one piece for the full width of the chair, the fabric covered cushion is provided with a notch extending from the forward edge thereof and of such width and length as to correspond to the notches 85 and 91 of the outer and inner shells so as to permit entry therein of the column of a chair to be nested or stacked.

Preferably, however, and to facilitate the formation of the cushion and the upholstery with a deep central slot, the inner shell 7, as well as the cushion and its fabric covering, may be made in two pieces of such form as to be disposed at either side of and to substantially meet upon the forward and rearward vertical plane through the axis of the column 23 of the chair. When the inner shell 7 thus is made in two pieces, each of the pieces is provided with a shoulder along all of the edges thereof corresponding to the shoulder 15, as described in connection with Fig. 4, which forms the recess within which the edge portions of the fabric cover are disposed, this fabric covering being secured to the shoulder as by tacks or other fasteners. When the inner shell 7 and the cushion 9 and its covering 11 are thus formed in two pieces, they must be formed with right and left contours and the portions thereof which are adjacent the notch 85 of the shell 1 must be formed with right and left outlines so as approximately to conform to the outline of the notch 85 of the seat portion of the shell 1. Where, as is usually the case, the cushion is formed of a resilient material such as foam rubber, the outline of the notch portion of the cushion need not be precisely determined, since the portions of the cushions at either side of the notch 85 will yield when the column 23 of a superposed chair is inserted in the notch.

In Figs. 2 and 4 are shown in dotted lines the outlines of a chair disposed in stacked relation to and nested above the chair shown in full lines in these figures. The seat and back portions of the shell 1 of the upper of the two chairs engage the upper surface of the fabric covered cushion 9 of the lower supporting chair shown in full lines. The column 23 of the upper chair, shown as a dot-dash circle in Fig. 2 and shown also vertically in dot-dash lines in Fig. 4, is disposed at the inner or rearward end 89 of the notch 85 of the shell 1 and at the inner or rearward end of the notch 91 of the plate 21 and forwardly of the column 23 of the lower chair. It will be apparent that the column 23 of the upper chair is closely adjacent the column of the lower supporting chair. It also will be seen from the dot-dash outlines in these two figures that the column 23 of the supporting chair shown in full lines is disposed closely adjacent and rearwardly of the hub 31 of the base 33 of the upper chair, the rearwardly extending arms 67 of the base 33 of the upper chair straddling the column 23 of the lower supporting chair as shown in full lines in Figs. 2 and 4.

Because of the form of the part of the base 33 which includes the hub 31 and the portions of the base adjacent thereto and disposed transversely of the forward and rearward center line, as above mentioned, the two columns are brought closely together without substantial interference of these hub portions of the base 33. (See Fig. 7.) Having regard to the proximity of the inner end of the notches 85, 91 to the hub 31 of the plate 21, it will be apparent also that the column 23 of the two chairs are brought into the closely adjacent relation to each other without substantial interference of the parts of the plate which are connected to the column.

It also will be seen in Fig. 2, because of the close relation of the column just described, that the forward edge

of the upper chair or of its cushion is disposed only slightly forward of the forward edge of the supporting chair or its cushion. The degree of this overhang and the limit of the proximity of the two columns in some cases may be determined by the thickness and contour of the cushions, particularly of the back cushion and the portion of the seat cushion adjacent to the back, but the form and length of the notches 85, 91 and the form and forward-rearward length of the space between the arms 67 of the base provide for as close disposition as possible.

It also will be seen in Fig. 4 that the clearance above referred to of the base of the upper chair with respect to the base of the lower supporting chair provided by making the vertical dimension of the seat and cushion structure greater than that of the base is sufficient so that, as the column of the upper chair is being moved rearwardly in the notch of the lower chair, the rearwardly extending arms 67 of the base of the upper chair will clear the base of the lower chair. Thus, the stacking operation is simple and expeditious.

Within the scope of the invention modifications may be made of the form of the seat structure and of the shells while providing the notch extending from the forward edge of the chair. Modifications also may be made in the form and construction of the base which in some cases may provide merely a slot or notch extending from the rearward periphery of a disc such as is conventionally used in a pedestal type chair, this notch or slot extending to an inner forward end close to the hub of the base to which the column is secured. Other variations may be made in the form and outlines of the column and other parts of the chair for the purposes of mechanical construction or of ornamental design while embodying the features described. All such variations are intended to be included in the scope of the appended claims.

I claim:

1. A chair adapted to be stacked compactly with other similar chairs which comprises a vertically disposed column, a seat supported on the upper end of said column, and a base connected to the lower end of said column for supporting said column and said seat, said seat having a notch open at the forward edge of the seat and extending rearwardly from said edge to an inner end of said notch adjacent said column, said base providing a rearwardly open space disposed at the rearward side of said column and extending forwardly to a forward end of said space adjacent said column, said column of said chair having a thickness transverse to the forward and rearward direction such that said column of a given chair may be received in said space of the base of a chair in superposed stacked relation to said given chair concomitantly with the column of said superposed chair being received in said notch of said given chair.

2. A chair adapted to be stacked compactly with other similar chairs which comprises a vertically disposed column, a seat supported on the upper end of said column, and a base connected to the lower end of said column for supporting said column and said seat, said seat having a notch open at the forward edge of the seat and extending rearwardly from said edge to an inner end of said notch adjacent said column, the width of said notch transversely of the forward and rearward direction being restricted so as to provide portions of said seat of substantial seat area at either side of the notch, said base providing a rearwardly open space disposed at the rearward side of and extending forwardly to a forward end of said space adjacent said column, said column of said chair having a thickness transverse to the forward and rearward direction such that said column of a given chair may be received in said space of the base of a chair in superposed stacked relation to said given chair concomitantly with the column of said superposed chair being received in said notch of said given chair.

3. A chair adapted to be stacked compactly with other similar chairs as defined in claim 1 in which said notch

8

9

tapers from said forward edge of the seat rearwardly to a width adjacent said inner end of said notch not substantially greater than said transverse dimension of the column.

4. A chair adapted to be stacked compactly with similar chairs as defined in claim 1 in which said base comprises a hub secured to the lower end of said column, and at least two arms extending rearwardly from said hub and transversely of and in symmetrical relation to the center line of the chair which extends in the forward and rearward direction, said arms defining therebetween said rearwardly open space of said base.

5. A chair adapted to be stacked compactly with similar chairs as defined in claim 1 in which said base comprises a hub secured to the lower end of said column, said four arms extending transversely of the center line of said column which extends in the forward and rearward direction, two of said arms extending forwardly of said column in symmetrical relation to said center line and the other two arms extending rearwardly of said column in symmetrical relation to said center line, said rearwardly extending arms defining therebetween said rearwardly open space of said base.

6. A chair adapted to be stacked compactly with similar chairs as defined in claim 5 in which said forwardly extending arms are disposed at an angle to said center line greater than the angle at which said rearwardly extending arms are disposed with respect to said center line.

7. A chair adapted to be stacked compactly with similar chairs which comprises a vertically disposed column, a seat supporting plate having a diameter substantially larger than the column and mounted on the upper end of said column, said plate having an upper surface extending transversely to the vertical, a seat having a bottom surface transverse to the vertical for engagement with said upper surface of said plate, means for securing said seat to said plate with said surfaces in engagement with each other, said seat having a notch open at the forward edge thereof and extending rearwardly from said edge to an inner end of said notch adjacent the column, said plate having a notch disposed in register with said notch of said seat when said seat is secured to said plate, said notch of said plate extending from the forwardly disposed edge of said plate to an inner end thereof adjacent said inner end of said notch of said seat, a base connected to the lower end of said column for supporting said column and said seat, said base providing a rearwardly open space disposed at the rearward side of said column and extending forwardly to a forward end of said space adjacent said column, said column of said chair having a thickness transverse to the forward and rearward direction such that said column of a given chair may be received in said space of said base of a chair in superposed stacked relation to said given chair concomitantly with the column of said superposed chair being received in said notch of said seat and of said plate of said given chair.

8. A chair adapted to be stacked compactly with other similar chairs as defined in claim 7, in which said column is tubular, an upper stub shaft secured at its upper end to said plate and projecting downwardly of the lower side of said plate within and engaging the inner surface of said tubular column, said base providing a centrally disposed hub, a lower stub shaft secured in said hub and extending upwardly therefrom within and engaging the inner surface of said tubular column, and means connecting said stub shafts for holding said plate and said hub in engagement with said tubular column adjacent the respective ends of said column.

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10

9. A chair adapted to be stacked compactly with other similar chairs, as defined in claim 8, in which said means connecting said stub shafts is provided by a rod threadedly engaging one of said stub shafts at one end of said rod and extending through said tubular column and through and beyond said other stub shaft, and a nut threaded on one end of said rod for bearing on the adjacent stub shaft.

10. A chair adapted to be stacked compactly with other similar chairs as defined in claim 8, in which said plate is provided with a central hub and said upper stub shaft is provided at its upper end with an outwardly flared portion embedded in the central hub of said plate for securing said plate to said upper stub shaft.

11. A chair adapted to be stacked compactly with other similar chairs as defined in claim 8, in which said lower stub shaft is formed at its lower end with a plurality of circumferentially extending ridges defining grooves therebetween, the lower end of said lower stub shaft being embedded in said central hub of said base for securely holding said lower stub shaft to said base.

12. A chair adapted to be stacked compactly with other similar chairs as defined in claim 7, in which said plate is provided with a plurality of bosses extending upwardly from said upper surface thereof and disposed in spaced relation to each other about the axis of said column, said seat at said bottom surface thereof being provided with corresponding recesses for receiving the respective bosses of said plate, and fasteners passing through said seat and engaging said bosses for securing said seat to said plate.

13. A chair adapted to be stacked compactly with other similar chairs as defined in claim 7, in which said upper surface of said plate is inclined downwardly with respect to the horizontal in the direction from said forward edge of said plate toward the rearward edge thereof.

14. A chair adapted to be stacked compactly with other similar chairs as defined in claim 7, in which said plate is provided with a centrally disposed hub, a web portion extending outwardly from said hub to the peripheral portion of said plate, and a plurality of ribs extending generally radially from said hub to the peripheral portion of said plate for stiffening said web and said peripheral portion with respect to said hub.

15. A chair adapted to be stacked compactly with other similar chairs as defined in claim 14, in which the upper edges of said ribs are disposed in a common plane defining said upper surface of said plate, a plurality of bosses extending upwardly from selected ribs and disposed about the axis of said column in generally symmetrical relation with respect to the forward and rearward center line of the chair, said seat at said bottom surface thereof being provided with corresponding recesses for receiving the respective bosses of said plate, and fasteners extending through said seat and engaging said bosses for securing said seat to said upper surface of said plate.

References Cited in the file of this patent

UNITED STATES PATENTS

249,133	Wilson	Nov. 1, 1951
938,219	Crumb	Oct. 24, 1959
1,624,832	Huebel	May 3, 1957
1,802,379	Schmitt	Apr. 21, 1951
2,315,666	Ferguson	Apr. 6, 1943

FOREIGN PATENTS

693,259	Great Britain	Nov. 24, 1952
724,125	France	Oct. 11, 1952



PAGE A

Chain like
Dx D2

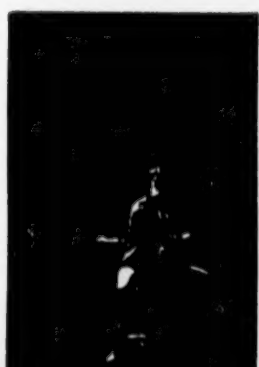
top: 157-601 armchair
right: 157-801 armchair
bottom: 157-701 armchair
shades by Foster Grant



157-601 armchair 161-901 petal table



157-702 side chair



mentioned to the Judge, or mentioned in your testimony, what, if there are any other reasons, what are the other reasons for your conclusion that the principal load carrying member is the inner shell and that the amount of load carried by the outer shell would be insignificant?

A. Well, if one were to seek to transmit a load through the, try to get the load to the outer shell, you would have to provide a way of doing it and also of accomplishing it.

(186)

CROSS EXAMINATION

By Mr. Heneveld:

Q. Now, Dr. Appleton, when was the first time that you ever became involved at all with a Belgian Patent?

A. When Mr. Carter called me and asked me to come by, he had a patent he wanted me to look at.

Q. That was the first instance that you ever even saw a Belgian Patent?

A. Yes, sir.

Q. And was that the Belgian Patent that has been talked about in your testimony thus far?

A. Yes, sir.

Q. And you know what a Belgian Patent consists of?

A. No more than I have seen from this patent.

Q. And when was the first time you ever read a Belgian Patent? Is it this patent?

A. This is the first Belgian Patent.

(187)

Q. Do you know anything about what, how to determine what is patented in a Belgian Patent?

A. No, sir.

Q. You have no knowledge whatsoever in that respect?

A. Well, none that I know of. If what I read here qualifies me, then I would know that, but that would be all.

Q. Now, have you ever been involved in furniture designing at all?

A. No, sir.

Q. Did you ever evaluate the forces in a chair previous to your testimony that you talked about thus far?

A. Not a chair specifically.

Q. Do you know what forces are exerted on a chair in use?

A. In the sense of being a structural engineer who has some feeling for forces, and sitting in them myself and seeing what it takes for chairs to appear to last and not last, I feel I have some feeling for the forces in chairs.

Q. Have you ever — are you familiar with the tests that they perform on chairs to determine whether they will stand the loads?

(188)

A. Not in detail.

Q. Do you know anything about a swing-back test?

A. I think some of those were performed in our building at one time, not by me, but by a local testing agency on some cabinets. Are these the type of tests you're talking about?

Q. Have you ever become involved in a pull test?

A. Well, of course we have tested materials in tension tests, if that's what you're talking about.

Q. I'm talking about a pull test on a chair.

A. No.

Q. Have you ever been involved in a squirm test or know what a squirming test is on a chair?

A. No, sir.

Q. So you really don't know, do you, just what forces are exerted on a chair in normal use?

A. I don't know that knowing what those tests are means knowing the forces.

Q. I'm asking, do you know what forces are exerted in normal use on a chair?

A. In the sense of my previous answer, I know. Not in the sense of someone that is an expert furniture, I'm not sure what the term would be, that measures such forces.

(190)

Q. What is the primary thrust of the Belgian Patent, what does it primarily talk about? What does it say are the objects and so forth, do you recall?

A. It speaks of two shells to be used in construction of a chair, the covering, base element and the foot, and that these are assembled together to end up with a chair.

Q. Have you read Page 2 of the Belgian Patent?

A. Yes, sir.

Q. Would you say that Page 2 rather sets forth what the inventor considered as being his invention?

A. Well, my study of the patent involved all of it and I feel I gathered from all of it, reinforced by the drawings, as to what was being described in the patent. Is there some specific on Page, I'm not sure what.

Q. I'm just trying to determine whether or not you know from this Belgian Patent what is expressed as the intention of the inventor as to what his invention is, or what he is claiming as his invention here.

A. May I ask a question?

Q. Yes.

A. In other words, are you asking me to, for instance, go through

PATENT NULLIFIED FOR LACK OF DESCRIPTION

One could not enough insist upon the absolute necessity, if one wishes to protect an invention, to comply in the description with the rules imposed by a jurisprudence getting more and more severe. We have on several instances mentioned decisions nullifying patents the text of which does not meet these requirements and we feel, in the interest of the inventors, that we must repeat it on each occasion.

It must mainly be borne in mind that a description of the invention, even very precise, is not sufficient if the inventor has not been careful to deduct therefrom the novel idea, to indicate its characteristic aspects and to express his claims in precise terms.

This obligation obviously results from a decision of the Liege Court of July, 1913 confirmed by the Liege Court of Appeals decision dated April 28, 1917.

This case is all the more interesting in that the description which has been rightly regarded as insufficient, seems at first sight to present all the required elements. The drawings cannot be criticized, the description is methodically drafted and it ends with a resume or claim. And yet it is insufficient and the patent has been nullified. Why? Because, says the decision: "The patent in question simply mentions the objects of the invention and describes the apparatus he invented without specifying which is the real characteristic of the invention nor where it lies."

The most interesting passages ^{of the} after judgement are the following:

"Whereas there is no doubt that the description of the

however declare that the description of the device is clear, precise and exact. But that they immediately afterwards indicate as basis for their appreciation: "on perusing and examining the drawings, one perfectly realizes the nature of the device."

Whereas the necessity for the experts to refer to the drawings to determine the ^{nature} ~~makers~~ of the device is so such sufficient to demonstrate the lack of description as requested by Law.

Whereas it is not sufficient, in order to enjoy the monopoly of use of a device that one may, as the experts have done, find novelty therein, but this novelty must have been claimed as such and specifically ~~patented~~ ^{patented} ~~prosecuted~~, it is irrelevant that the plaintiff has invented something if the application does not contain the claim of his invention.

CLAIM OF THE BELGIAN PATENT

SUBJECT OF THE ABOVE DECISION

"I claim as my invention the improvements to the heat chamber in hot air apparatus as described hereabove and shown in the drawings."



3669499

THE UNITED STATES OF AMERICA

TO ALL TO WHOM THESE PRESENTS SHALL COME:

Whereas, THERE HAS BEEN PRESENTED TO THE
Commissioner of Patents

A PETITION PRAYING FOR THE GRANT OF LETTERS PATENT FOR AN ALLEGED NEW AND USEFUL INVENTION THE TITLE AND DESCRIPTION OF WHICH ARE CONTAINED IN THE SPECIFICATION OF WHICH A COPY IS HEREUNTO ANNEXED AND MADE A PART HEREOF, AND THE VARIOUS REQUIREMENTS OF LAW IN SUCH CASES MADE AND PROVIDED HAVE BEEN COMPLIED WITH, AND THE TITLE THERETO IS, FROM THE RECORDS OF THE PATENT OFFICE IN THE CLAIMANT(S) INDICATED IN THE SAID COPY, AND WHEREAS, UPON DUE EXAMINATION MADE, THE SAID CLAIMANT(S) IS (ARE) ADJUDGED TO BE ENTITLED TO A PATENT UNDER THE LAW.

NOW, THEREFORE, THESE Letters Patent ARE TO GRANT UNTO THE SAID CLAIMANT(S) AND THE SUCCESSORS, HEIRS OR ASSIGNS OF THE SAID CLAIMANT(S) FOR THE TERM OF SEVENTEEN YEARS FROM THE DATE OF THIS GRANT, SUBJECT TO THE PAYMENT OF ISSUE FEES AS PROVIDED BY LAW, THE RIGHT TO EXCLUDE OTHERS FROM MAKING, USING OR SELLING THE SAID INVENTION THROUGHOUT THE UNITED STATES.

In testimony whereof, I have hereunto set my hand and caused the seal of the Patent Office to be affixed at the City of Washington this thirteenth day of June, in the year of our Lord one thousand nine hundred and seventy-two, and of the Independence of the United States of America the one hundred and ninety-sixth.

Attest:

Edward A. Loring,
Attesting Officer.

Robert B. Johnson,
Commissioner of Patents.

PATENTED JUN 13 1972

SHEET 2 OF 2

3,669,499

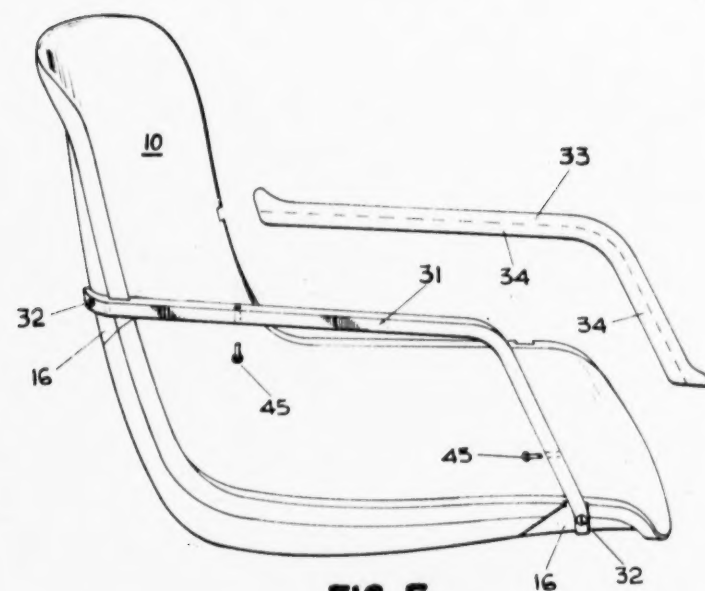


FIG. 5

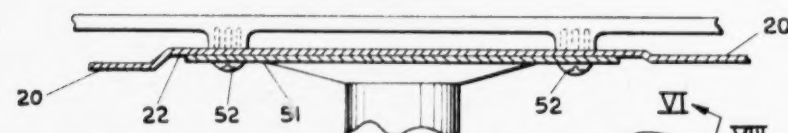


FIG. 9

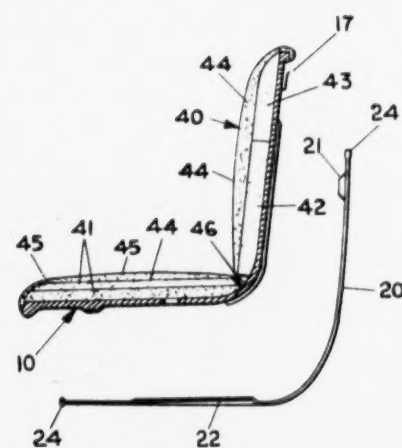


FIG. 6



FIG. 4

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PATENTED JUN 13 1972

SHEET 1 OF 2

3,669,499

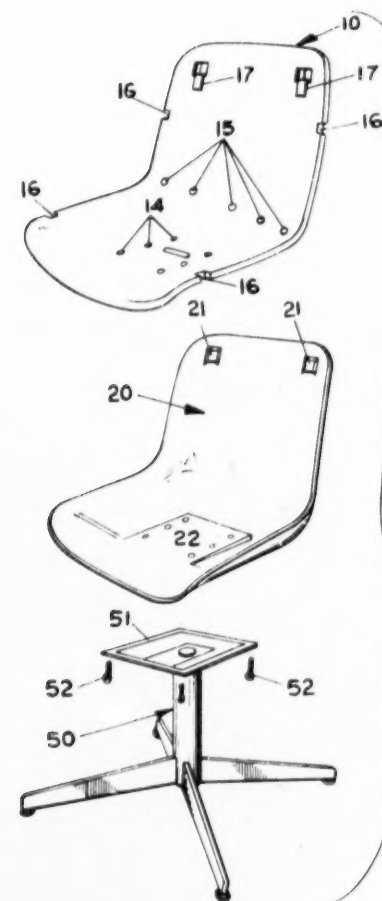


FIG. 1

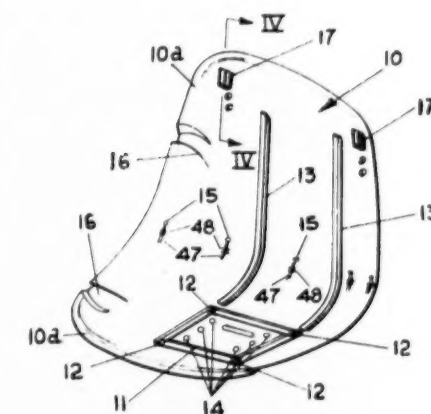


FIG. 2

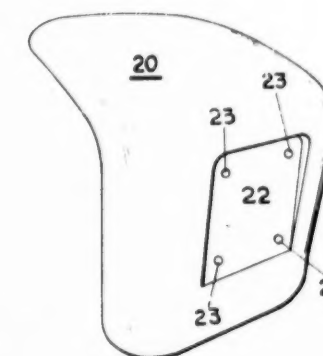


FIG. 3

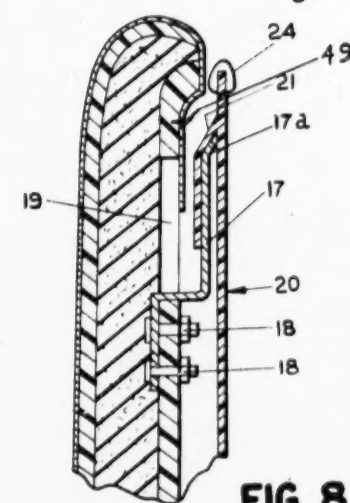


FIG. 8

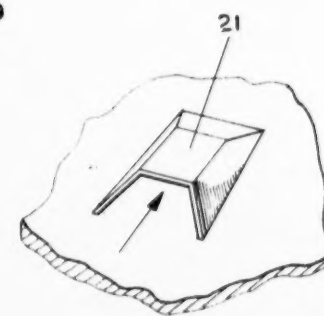


FIG. 7

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United States Patent

Semplonius et al.

[15] 3,669,499
[45] June 13, 1972

[54] CHAIR

- [72] Inventors: Frans Semplonius, Kentwood; Stephen B. Kolk, Grand Rapids, both of Mich.
[73] Assignee: Steelcase Inc., Grand Rapids, Mich.
[22] Filed: Dec. 30, 1970
[21] Appl. No.: 102,592

- [52] U.S. Cl.: 297/455, 297/421, 297/460, 297/445
[51] Int. Cl.: A47c 7/00, A47c 7/02
[58] Field of Search: 297/416, 420, 421, 445, 443, 297/451, 452, 458, 460, 5/356

[56] References Cited

UNITED STATES PATENTS

- 2,901,028 8/1959 Bottemiller297/421 X
3,139,307 6/1964 Hawley et al.297/454

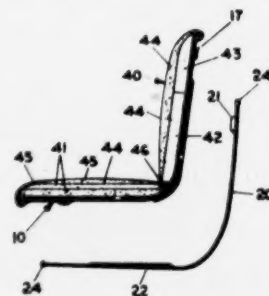
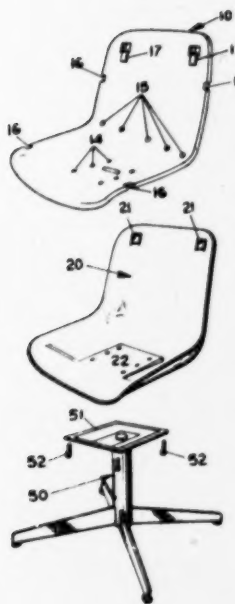
- 3,173,723 3/1965 Howen et al.297/451
2,769,485 11/1956 Shapiro297/458 X
2,892,489 6/1959 Hurley297/456 X
2,284,957 6/1942 Gedris297/460
3,284,136 11/1966 Harrison297/445

Primary Examiner—Casmir A. Nunberg
Attorney—Price, Heneveld, Huizenga & Cooper

[57] ABSTRACT

The specification discloses a chair whose structural strength is derived from a molded, high-impact polystyrene structural shell. The face of this shell is covered with suitable cushioning and upholstery and arms may be provided if desired. This structural shell is then joined to a decorative, molded polypropylene trim shell which covers the rear of the structural shell and which includes a recessed portion to accommodate the seat supporting pan of a chair base which is secured to the structural shell, through the trim shell.

18 Claims, 9 Drawing Figures



1

CHAIR

BACKGROUND

The primary objectives of chair design are to achieve both beauty and substantial strength. Unfortunately, these objectives are not necessarily compatible. Accordingly, the more durable chairs tend to have conventional lines necessitated by the emphasis on structural strength. Molded, reinforced plastic chairs are also limited in design potential by the structural necessities of the chair, such as the necessity of conforming to back curvature. Furthermore, the exterior appearance of reinforced plastics renders it unacceptable for many design purposes.

BRIEF DESCRIPTION OF INVENTION

The present invention provides a chair having a load bearing structural shell with integral seat and back. Means are provided for covering the face of said shell to give the face a decorative appearance. A molded, plastic trim shell having a decorative exterior appearance and having integral seat and back covering portions is secured to the structural shell in such a manner that the rear of the structural shell is covered by the trim shell in order to give the chair a decorative exterior appearance.

Thus, the teachings of this invention contribute substantially to improve the compatibility of the design and structural objectives of chair engineering. The task of engineering the load bearing structural shell of this chair can be given to a structural engineer while the task of giving the chair a decorative exterior appearance can be given to a designer. The separate labors of the two men can be brought together into a single chair by utilizing applicant's unique means for joining the trim shell to the structural shell.

In accordance with this emphasis on design, other objects of the invention include that of providing a recess in the seat covering portion of the trim shell sufficiently large to accommodate and hide from view that portion of a chair base which is to be secured to the structural shell. The trim shell also hides from view the edge of the upholstery used to cover the face of the structural shell where the upholstery is wrapped around the peripheral edge of the shell and secured to the rear side thereof. Unique arm connections are provided which also can be hidden from view by means of the decorative trim shell.

Finally, yet another aspect of this invention is directed towards providing a unique cushion assembly whereby a plurality of cushions are adhered in adjacent fashion to the face of the back portion of the structural shell. The relative density of the different cushions varies directly with the amount of weight which must be supported by the portion of the shell back which is covered by that cushion. This unique human engineering feature substantially improves the comfort of applicant's chair.

BRIEF DESCRIPTION OF THE DRAWINGS

These and other objects and advantages of this invention will be seen by reference to the written specification and appended drawings wherein:

FIG. 1 is an exploded view of the structural shell, trim shell and chair base;

FIG. 2 is a perspective view of the rear side of the structural shell;

FIG. 3 is a perspective view of the rear side or the exterior side of the trim shell;

FIG. 4 is a perspective view of the fully assembled chair;

FIG. 5 is a perspective view of the structural shell and arm assembly;

FIG. 6 is an exploded cross section taken along VI—VI of FIG. 4;

FIG. 7 is a perspective, cutaway view of the upper right-hand portion of the trim shell;

FIG. 8 is a sectional view taken along VIII—VIII of FIG. 4; and

FIG. 9 is a cross-sectional view of a portion of the chair showing the connection of the base to the seat.

2

CHAIR

PREFERRED EMBODIMENT

In the preferred embodiment, the chair of this invention includes a structural shell 10 which is to be seated within, and secured to a trim shell 20 and mounted on a base 50 (FIG. 1). Shell 10 is provided with a suitable covering 40 (FIG. 6) and may be provided with arms 30 (FIG. 4). FIG. 4 shows a perspective view of the fully assembled chair and it can be seen that when the chair is assembled, structural shell 10 is completely hidden from view.

Structural shell 10 is formed by molding a high impact, expanded polystyrene. It includes an integral seat and back and must be of sufficient thickness that it will provide the structural support for the chair without the aid of trim shell 20. It has been found that a thickness of about three-eighths of an inch is suitable.

The bottom of shell 10 includes a rectangular rib 11 having T-nuts 12 located in the corners thereof to provide a means for mounting chair base 50 (FIG. 2). Rib 11 is thicker than the rest of structural shell 10 and accordingly provides additional rigidity and support in this crucial area. Similar reinforcing support is provided by ribs 13 which extend down the rear face of the shell back and around to the shell bottom. As with rectangular rib 11, these ribs 13 are thicker than structural shell 10 is generally and thereby provide additional structural support. Finally, the peripheral rim 10a of shell 10 is somewhat thicker than the rest of shell 10 to minimize the possibility of cracking and splitting in this region and to give shell 10 added rigidity.

Shell 10 includes a plurality of venting holes 14 in the seat portion thereof (FIGS. 1 and 2) to allow the seat cushion 41 (FIG. 6) to vent. A plurality of tufting holes 15 are provided along the junction between the seat and back portions of shell 10 to facilitate tufting of the upholstery 45 as indicated at 46 in FIGS. 4 and 6.

To facilitate the mounting of arms 30, the peripheral portion of shell 10 includes four recesses 16 (FIGS. 1 and 2), one being located at each side of the seat portion of shell 10 and one being located at each side of the back portion thereof. In order to facilitate the securing of trim shell 20 to structural shell 10, a pair of clips 17 are provided, each of which is bolted to the face of shell 10 by bolts 18 (FIG. 8), and which extend rearwardly through openings 19 in shell 10 and then extend vertically upwardly on the rear side of shell 10 (FIGS. 1, 2 and 8). These upper extremities are flanged, 17a in order to facilitate the easy securing of trim shell 20.

Trim shell 20 is preferably injection molded of polypropylene. This provides an impact resistant decorative shell at a reasonable cost. It need only be sufficiently thick that it holds a desired design configuration. It has been found that a thickness of about nine sixty-fourths of an inch is acceptable.

Protruding from the inner face of shell 20 are a pair of clip wells 21 (FIGS. 1 and 7) which cooperate with clips 17 on shell 10 in order to facilitate the joining of trim shell 20 to structural shell 10. Each well 21 projects from the surface of trim shell 20 and has an open bottom as is indicated by the arrow in FIG. 7.

Trim shell 20 also includes a recessed portion 22 in the base or seat covering portion thereof. This is sufficiently large to accommodate the seat supporting pan 51 of chair base 50 when the latter is secured to the assembled structural shell 10 and trim shell 20. Holes 23 are provided at the four corners of recessed portion 22 whereby nuts can pass through trim shell 20 into structural shell 10.

Finally, a decorative bumper strip 24 is secured around the peripheral edge of trim shell 20 (FIGS. 6 and 8). This strip is preferably made of polyvinyl chloride and is channeled so as to snap over the peripheral edge of trim shell 20. It serves as a bumper and it also serves to fill any slight gaps between the edge of trim shell 20 and structural shell 10.

If desired, arms 30 can be secured to structural shell 10 in the manner indicated in FIG. 5. A curved steel rod 31 provides the structural strength for arm 30. The ends of rod 31 wrap

3,669,499

3

around the peripheral edge of shell 10 to the rear of the seat portion at one end and to the rear of the back portion at the other end. These end portions of rod 31 reside in recessed channels 16 such that they do not extend a substantial distance beyond the peripheral edge of structural shell 10. They are then bolted to T-nuts embedded in structural shell 10 by means of bolts 32 or the like.

A trim portion 33, preferably of compression molded matte finish phenolic plastic, is secured over curved rod 31. It includes a channel portion 34 which fits over and encompasses rod 31, and it is bolted thereto by means of bolts 35 extending through rod 31 and into well nuts embedded in trim 33.

The covering for structural shell 10 begins with a laminated seat cushion 41 which is adhered by adhesive to the seat portion of structural shell 10. The first layer of laminate is a very firm density polyurethane material while the second layer is a softer density polyurethane material. A medium density cushion 42 is adhered by means of adhesives to the face of the back portion of structural shell 10 in the area which will have to support the lumbar region of a person seated on the chair. A softer urethane cushion 43 is adhered to the face of structural shell 10 in the shoulder supporting regions thereof (FIG. 6). In this manner, the lumbar region of a person's back is supported by a heavier density cushion 42 while the shoulder regions, which require less support, are supported by a softer foam cushion 43.

The cushions 41, 42 and 43 are covered with a continuous layer of padding material 44 which in turn is covered with upholstery 45. Both the continuous layer of padding 44 and the upholstery 45 are wrapped around the peripheral edge of structural shell 10 and are secured to the rear side thereof by means of staples 49 or the like (FIG. 8). Staples 49 are preferable since it is easier to staple than to glue. Thus, it is significant that structural shell 10 is rigid and dense such that it will hold staples 49 properly.

Upholstery 45 can be tufted as at 46 (FIGS. 4 and 6) by sewing threads 47 through upholstery 45 at selected points, pulling both ends of each thread 47 through a hole 15, and stapling the ends of the thread to the rear face of structural shell 10 by means of staples 48.

Once the covering material 40 and the arms 30 are in place on shell 10, trim shell 20 can be secured to shell 10. The flanged ends 17a of clips 17 are slipped into the openings in the clip wells 21 on trim shell 20. Because the clips are flanged at their end portion 17a, they can be more easily located with respect to clip wells 21 and can be more easily slid into position. The rods 31 of arms 30 are recessed in channels 16, extending no farther beyond the peripheral edge 10a than the thickness of upholstery 45 and padding 44. Thus, the perimeter of trim shell 20 fits snugly against structural shell 10.

With structural shell 10 and trim shell 20 so joined, base 50 can be secured to structural shell 10. Base 50 is aligned such that its seat supporting pan 51 is positioned within recess 22 in trim shell 20 (FIG. 7). Bolts 52 are passed through holes in the four corners of seat supporting pan 51, through the holes 23 in recessed portion 22 of trim shell 20 and into the T-nuts 12 which are embedded at the corners of rectangular rib 11 of structural shell 10. By passing through trim shell 20, bolts 52 serve not only to secure structural shell 10 to base 50, but also to provide additional securance of trim shell 20 to structural shell 10.

Because of the unique construction outlined above, the edge of upholstery 45 and the means securing it to the rear of structural shell 10 are completely hidden from view by trim shell 20. Similarly, the ends of arms 30 which are joined to the rear of structural shell 10 are hidden. Because of the recessed channels 16, the passage of the arm supporting rods 31 around to the rear of structural shell 10 does not in any way interfere with the close fit which is achieved between the peripheral edge of trim shell 20 and structural shell 10. The unique arrangement of different density cushions on different portions of the back of structural shell 10 insures maximum comfort from the chair of this invention. Because all of the cushions

4

41, 42 and 43 are held by adhesive to the face of structural shell 10, they cannot bunch and shift around. This is also true of padding 44 since it comprises a continuous layer which is stapled to the rear of structural shell 10 at its peripheral edge.

It is also significant that the structural shell 10 and the trim shell 20 when joined together render structural shell 10 more rigid than it is when standing alone. Thus, this lamination which is achieved by tightly securing the two shells together makes it possible to use less costly construction in manufacturing structural shell 10.

Most importantly, maximum compatibility is achieved between the design objectives of providing structural strength and attractive appearance. Even though the material of which structural shell 10 is constructed does not have a suitable surface appearance for many purposes, it can be used in the construction of this chair for any purpose since the structural shell 10 is completely hidden from view when the chair is assembled. Applicant has created a unique marriage of heretofore divergent design objectives and accordingly, has made a significant contribution to the chair design art.

It will be understood that the above is merely a preferred embodiment of this invention and that many alterations and changes can be made without departing from the spirit and broader aspects of the invention.

The embodiments of the invention in which an exclusive property or privilege is claimed are defined as follows:

1. A chair comprising a load bearing structural shell with integral seat and back; means for covering the front face of said structural shell; a molded, plastic non-load bearing trim shell having a decorative exterior appearance, integral seat and back covering portions for covering generally the rear surfaces of said structural shell, and sufficient thickness and rigidity to hold a desired design configuration; said trim shell being secured to said structural shell and being positioned to cover the rear of said structural shell to thereby give the chair a decorative exterior appearance.

2. The chair of claim 1 which comprises: a chair base having a seat supporting pan which is positioned within an upwardly projecting recess in said seat covering portion of said trim shell; means securing said supporting pan to said structural shell through said trim shell.

3. The chair of claim 2 in which the bottom of said structural shell comprises a downwardly projecting, generally rectangular rib to provide said structural shell with increased thickness and rigidity in the area of connection to said seat supporting pan.

4. The chair of claim 1 which comprises a continuous arm secured at either side thereof; one end of each arm extending around to the rear of said structural shell back and being secured thereto and the other end extending around to the rear of said structural shell seat and being secured thereto; said seat and said back each including a recessed channel in the peripheral edge portion of said structural shell for accommodating the thickness of said arm such that said trim shell can be snugly secured to the rear of said structural shell and thereby cover the connection of said arms to said structural shell.

5. The chair of claim 1 in which said means for covering the face of said structural shell comprises: cushioning secured to the face of said structural shell; upholstery covering said cushioning and extending around the peripheral edge of said shell to the rear thereof; said upholstery being secured at its perimeter to the rear of said structural shell, and being hidden from view at its perimeter by said trim shell.

6. The chair of claim 5 which comprises: a continuous layer of soft padding material covering said cushioning material and being covered by said upholstery and extending around the peripheral edge of said structural shell, beneath said upholstery, and being secured to the rear of said structural shell along with said upholstery.

7. The chair of claim 5 in which said structural shell comprises: a plurality of holes therethrough along the junction between said seat and back; said upholstery being tufted along

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5

the junction between the seat and back by means of threads sewn thereto and being pulled through said plurality of holes and stapled to the rear of said structural shell, hidden from view by said trim shell.

8. The chair of claim 1 in which said structural shell comprises a plurality of integral, reinforcing ribs extending down said back on the rear side thereof and around to the bottom of said seat.

9. The chair of claim 5 in which said cushioning comprises: a first cushion being applied to the face of said back in the lumbar supporting region thereof; a second cushion being applied to the face of said back in the shoulder supporting region thereof; said first cushion being of heavier density than said second cushion in order to provide greater support to the lumbar region of a person's back.

10. The chair of claim 1 in which the peripheral edge of said trim shell is covered by an elongated bumper strip to provide edge protection and to fill any slight gaps between said peripheral edge and said structural shell.

11. A chair comprising: a molded, high impact polystyrene structural shell having sufficient thickness to provide an integral, load bearing seat and back; means for covering the front face of said shell; a molded, decorative polypropylene non-load bearing trim shell for covering the rear surfaces of said structural shell, the thickness of said trim shell being sufficient to give it enough rigidity to hold a desired design configuration; means for securing said trim shell to said structural shell whereby the exterior of said chair is given a decorative appearance.

12. The chair of claim 11 in which said structural shell comprises integral reinforcing ribs to give it added rigidity in strength.

13. The chair of claim 1 with said trim shell being rigidly secured to the back and to the seat of said structural shell to increase the rigidity thereof.

14. The chair of claim 4 in which said arm comprises: a metal support rod defining the general configuration of said arm and including a first end portion bent inwardly from the generally vertical plane of the arm to wrap around the underside of said structural shell seat and a second end portion bent inwardly from said generally vertical plane to wrap around the rear of said structural shell back; said first and second end portions being secured to said structural shell; a decorative trim member having a channel on the underside thereof for receiving said metal support rod, except for said first and second end portions; means securing said trim member to said support rod

6

with said support rod within said channel.

15. The chair of claim 1 in which an arm is secured to either side thereof, said arm comprising: a metal support rod defining the general configuration of said arm and including a first end portion bent inwardly from the generally vertical plane of the arm to wrap around the underside of said structural shell seat and a second end portion bent inwardly from said generally vertical plane to wrap around the rear of said structural shell back; said first and second end portions being secured to said structural shell; a decorative trim member having a channel on the underside thereof for receiving said metal support rod, except for said first and second end portions; means securing said trim member to said support rod with said support rod within said channel.

16. A chair comprising: an inner shell with a seat and a back; means for covering the face of said inner shell; an outer shell having seat and back covering portions; said outer shell being secured to said inner shell and being positioned to cover the rear of said inner shell; a continuous arm secured at either side of said chair, one end of each arm extending around to the rear surface of said inner shell back and being secured thereto and the other end extending around to the under surface of said inner shell seat and being secured thereto; said seat and said back each including a recessed channel in the peripheral edge portion of said inner shell for accommodating the thickness of said arm such that said outer shell can be snugly secured to the rear of said inner shell and thereby cover the connection of said arms to said inner shell.

17. The chair of claim 16 in which said arm comprises: a metal support rod defining the general configuration of said arm and including a first end portion bent inwardly from the generally vertical plane of the arm to wrap around the underside of said inner shell seat and a second end portion bent inwardly from said generally vertical plane to wrap around the rear of said inner shell back; said first and second end portions being secured to said inner shell; a decorative trim member having a channel on the underside thereof for receiving said metal support rod, except for said first and second end portions; means securing said trim member to said support rod with said support rod within said channel.

18. The chair of claim 17 in which said inner shell comprises a structural load bearing shell and said outer shell comprises a molded, plastic non-load bearing trim shell having a decorative exterior appearance and sufficient thickness and rigidity to hold a desired design configuration.

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